# The Mining Journal,

## RAILWAY AND COMMERCIAL GAZETTE.

FORMING A COMPLETE RECORD OF THE PROCEEDINGS OF ALL PUBLIC COMPANIES.

No. 1447.—Vol. XXXIII. LONDON, SATURDAY, MAY 16, 1863. (WITH SUPPLEMENT) {STAMPED.....SIXPENCE. UNSTAMPED..FIVEPENCE.


**MR. JAMES CROFTS, SHAREBROKER,**
No. 1, FINCH LANE, CORNHILL.
Mr. Crofts transacts business, in the way of PURCHASE or SALE, in every description of stocks, but particularly in BRITISH MINES, in no case departing from the position of a broker, at net prices. All orders meet with the utmost punctuality and zeal, and advice given as to the nature and eligibility of INVESTMENTS, when required. EXCHANGES OF STOCK effected on the most advantageous basis, subject only to one commission.
*** BUYER of 100 shares in Cwmbrane Lead Mine (call of 10s. made May 13 paid); Bryntail, 15s.
*** SELLER of 30 Copiapo Extension Railway (Chili), £10 paid, £3¾ net cash, and immediate delivery.

**MR. CROFTS' MINING CIRCULAR, No. 8,** is published this day. Contents:—The Biography of a Mine (East Caradon). The Market. Reports:—Wheal Harriett, Tamar Silver-Lead, Holmbush, Tincroft. Reviews:—St. Day United, North Downs, Marke Valley, Billins, Bryn Gwiog. Miscellanea:—Reaction on the Stock Exchange; Great Busy, Billins, and Pentre Lygan compared; Bryntail (important). *** Subscription, 21s. per annum; a single copy, six stamps.
Dated May 16, 1863.

**MR. JAMES LANE, No. 44, THREADNEEDLE STREET,**
LONDON, E.C.
James Lane has FOR SALE, at nett prices:—20 Arthur, 11s.; 10 Bottle Hill, 15s.; 2 Basset and Grylls, £27; 10 Bedford United, £3½; 5 Cook's Kitchen, £28; 20 Crebor, 65s.; 50 Cornubia, 30s.; 20 Drake Walls, £2½; 20 East Wheal Russell, £3⅝; 20 East Carn Brea, £3½; 20 East Rosewarne, £3⅞; 15 East Grylls, £3¾; 30 East Jane, £2; 5 East Caradon, £36; 100 Furze Hill Wood, 10s.; 50 Great Retallack, 7s. 6d.; 5 Great Wheal Fortune, £36½; 10 Glasgow Caradon, £4½; 30 Gawton, 12s.; 100 Great Tregune, 3s.; 50 Hawkmoor, 3s. 6d.; 25 Kelly Bray; 20 Lady Bertha, 17s. 6d.; 20 Ludcott, £5½; 20 Marke Valley, £7¾; 20 New Wheal Martha, £2¾; 10 North Basset, £4½; 10 North Buller, £7; 20 North Crofty, £3¾; 25 North Treskerby, £3⅞; 25 Pedn-an-drea United, 21s.; 5 Tincroft, £19¾; 20 Wheal Edward, £3½; 20 Wheal Harriett, £3½; 10 St. Just United; 100 West Devon, 10s.

**STOCK AND SHAREDEALER.—MR. PETER WATSON,**
ENGLISH AND FOREIGN STOCK, SHARE, AND MINING OFFICES, 79, OLD BROAD-STREET, LONDON, E.C.
TELEGRAPHIC MESSAGES to BUY or SELL Railway, Bank, Mine, and other Shares and Stocks, punctually attended to on commission, or at nett prices for cash, or for fortnightly settlements, with advice as to purchases or sales.
Eighteen years' experience.
(Two in Cornwall and Sixteen in London.)
Bankers: Union Bank of London.
Every information can be obtained on personal application or by letter, as to purchases and sales of mine and other shares, and the best investment for capital.
From the close proximity of his Offices to the Stock Exchange, as well as the Mining Exchange, Peter Watson is enabled to act with promptitude on all orders entrusted to him, which at all times are carried out with punctuality, and to the best advantage of his clients.—May 15, 1863.

**MR. LELEAN, 11, ROYAL EXCHANGE, LONDON, E.C., has** FOR SALE the FOLLOWING MINING SHARES, free of commission:—

| | | |
|---|---|---|
| 10 Bryn Gwiog. | 10 Lady Bertha, 18s. 9d. | 2 South Basset. |
| 5 Basset. | 10 Marke Valley, £7½. | 15 Tincroft, £20 1s. 3d. |
| 10 Camborne Vean, 35s | 5 Mary Ann, £16⅛. | 5 Trelyon. |
| 1 Condurrow. | 180 North Minera, 4s. 3d. | 50 Tamar Consols, 15s. |
| 5 Cook's Kitchen, £27½. | 1 New Seton. | 40 Tolvadden, £1 18s. 9d. |
| 3 Cliff. Amal., £23½. | 5 North Basset, £4 11s 3d | 25 United Mexican, £7 3 9 |
| 30 Cardigan Cons., 17s. 6d. | 22 North Buller, £6¾. | 100 Vale of Towy. |
| 1 Devon Great Consols. | 5 North Frances. | 5 Vigra and Clogan. |
| 20 Drake Walls, £2 3s. 9d. | 15 North Downs, £3 6s. 3d. | 25 Wheal Unity, 6s. 6d. |
| 15 East Russell, £3 8s 9d | 5 North Roskear, £29⅜. | 80 Worthing, 11s. 9d. |
| 15 East Carn Brea. | 10 No. Treskerby, £3 17 6 | 1 West Seton. |
| 20 East Treskerby, £3⅜. | 10 North Crofty. | 10 West Gt. Work, 3s. 6d. |
| 15 East Grenville, 49s. 3d. | 80 Nanteos & Penrhiw, 5s. | 50 West Polmear, 3s. 9d. |
| 5 E. Caradon, £36¼. | 100 Pedn-an-drea, 21s. | 3 West Caradon, £28¼. |
| 2 East Basset, £98¾. | 20 Pendeen Cons., £7 12 6 | 20 West Condurrow, £4¼. |
| 50 East Jane, 42s. 6d. | 2 Providence, £42½. | 1 Wheal Seton. |
| 10 E. Rosewarne, £3¾. | 20 Rosewarne Con., £2⅝. | 10 Wh. Grenville, £5 16 3 |
| 5 Grambler. | 13 Rosewarne Utd., 38s. | 10 Wheal Prosper, 25s. |
| 4 Great Fortune, £37. | 1 South Caradon. | 20 Wheal Hearle, £1¾. |
| 100 Gt. Retallack, 11s. 3d. | 1 South Tolgus, £62½. | 70 West Trevelyan, 5s. |
| 10 Gt. So. Tolgus, £5 1s 3d | 2 St. Ives Consols, £30. | 1 Wheal Buller, £65. |
| 100 Garreg, 3s. 3d. | 3 St. John del Rey, £56¼. | 35 Wh. Harriett, £3 18s 9d |
| 50 Gt. Wh. Neptune, 15s 9d | 5 Stray Park, £36⅜. | 20 Wheal Union, £4⅞. |
| 5 Kitty (Lelant), £9¾. | 50 Sortridge, 8s. 9d. | 10 Wheal Crebor, 65s. |
| 25 Kelly Bray, 21s. | 2 S. Wh. Frances, £88¼ | 10 Wheal Edward, £3. |
| 35 Ludcott, £5½. | 70 So. Car. Hooper, 14s 9d | |

I again earnestly advise the immediate purchase of Wheal Crebor, Rosewarne United, West Condurrow, East Rosewarne, East Treskerby, and St. Ives Consols.
N.B.—Mr. Lelean requests that all shares for sale be sent in on Thursday evening the latest, to insure their insertion.

**MR. E. BEAZLEY, MINING AND GENERAL BROKER,**
1, BANK CHAMBERS, LOTHBURY, LONDON, E.C.
E. Beazley recommends for Immediate Purchase, for Investment, North Roskear, North Crofty, East Chiverton, North Pool, New Seton, East Seton, East Carn Brea, and Union.

**JOSEPH GREGORY, STOCK AND SHAREBROKER,**
2, HATTON COURT, THREADNEEDLE STREET, LONDON, E.C.
Commission on purchase and sale of mining shares, 1¼ per cent.

**WILLIAM ALLISON, STOCK, SHARE, AND MINING**
BROKER, 29, AUSTINFRIARS, LONDON, E.C.
Orders to buy or sell, accompanied by references, punctually attended to.

**RICHARD CLIFT, MINE SHAREDEALER,**
late of Redruth, now 48, THREADNEEDLE-STREET, LONDON, where all letters are to be addressed.

**JAMES HUME, SHAREBROKER, 74, OLD BROAD STREET,**
LONDON, E.C.
Hume's "Circular" for May will contain special and authentic reports on Seton, Tincroft, North Buller, New Wendron, East Basset, Drake Walls, &c., with advice what to buy. Single copy, 6d.; subscription, 5s. per annum.
Bankers: London and Joint-stock Bank.

**WILLIAM SEWARD, MINING BROKER, STOCK AND**
SHAREDEALER, 31, THROGMORTON STREET, LONDON, E.C.
Commission, 1¼ per cent. on all transactions.

**MR. THOS. THOMPSON, MINING OFFICES,**
12, OLD JEWRY CHAMBERS, LONDON, E.C.
Mr. Thompson has the means of obtaining the very first information, and is fully capable of giving the best advice, either for investment or speculation.

**MR. T. ROSEWARNE, 81, OLD BROAD STREET,**
LONDON, E.C., has FOR SALE:—

| | | |
|---|---|---|
| Basset and Grylls, £27¼. | East Basset, £98¼. | Roskearnowth (call paid), £9½. |
| Bottle Hill, 12s. 6d. | East Caradon, £36½. | Tolvadden, 40s. |
| Calstock Cons., 18s. 6d. | East Gunnis Lake, £1⅛. | Tincroft, £19¾. |
| Copper Hill, £83¼. | East Grenville, £2¼. | Wheal Uny, £6⅞. |
| Condurrow, £122½. | Gawton United, 10s. 6d. | Wheal Seton, £252½. |
| Clifford Amalgama., £23. | Great South Tolgus, £5⅛ | Wheal Crebor, £3¼. |
| Cook's Kitchen, £28. | Hingston, £2⅞. | Kitty (St. Agnes), £7⅜. |
| Drake Walls, £2¼. | North Basset, £4¼. | Wheal Edward, £3½. |
| Devon Great Con., £512½ | North Roskear, £30. | Wheal Harriett, £3⅜. |
| East Carn Brea, £8¼. | North Downs, £2⅜. | Wheal Grylls, £29. |
| E. Rosewarne, £3 12s. 6d. | North Treskerby, £3⅜. | Wheal Grenville, £5⅞. |
| East Devon Con., 5s. 6d. | North Robert, 19s. | Wh. Kitty (Lelant), £9. |
| East Grylls, £3¼. | Okel Tor, £4. | Wheal Unity, 8s. 9d. |
| Glasgow Caradon, £4½. | Prince of Wales, 7s. | |
| I is a BUYER of:— | | |
| West Tolgus, £63. | Marke Valley, £7¼. | Great Fortune, £35½. |
| 15, 1863. | Bankers: Bank of London. | |

**MR. GEORGE BUDGE, SHAREBROKER, No. 4, ROYAL**
EXCHANGE BUILDINGS, LONDON, E.C. (Established 16 years), has FOR SALE at nett prices:—1 South Frances, £90; 25 Cefn Cilcen; 10 Ludcott, £5⅝; 3 Caradon, £29; 50 Wheal Harriett; 2 North Roskear, £30; 50 Drake Walls, £2¼; Tincroft, £19¾; 4 Long Rake, £30; 50 East Rosewarne; 5 West Chiverton; 2 Basset, £102; 3 Wendron Consols, £14; 50 New Martha (fully paid), £3¼; 200 14s.; 35 Stithney Carnmeal, £4; 100 West Trevelyan, 6s.; 100 Iligan, 32s. 6d.; Buller and Basset, 6s.; 50 Treweatha, 21s.; 200 Molland, 5s. 9d.; 100 Kelly Bray, 3d.; 3 East Darren; 75 Wheal Unity, 9s. 9d.; 50 Okel Tor; 100 Gawton, 10s. 6d.; East Jane, £2; 60 Sortridge, 8s. 9d.; 20 Wheal Grenville, £5¾; 20 North Crofty; Wheal Edward; 10 East Caradon, £35½; 5 Marke Valley, £7¼; 5 Great South Tolgus, £5⅛; 2 Great Fortune, £36; 10 Roskearnowth, £8¾; 100 Great Retallack; East Grenville; 150 Redmoor; 2 West Sharp Tor; 125 North Pool, £2 11s. 3d.; 5 Wendron Consols; 100 New South Caradon, 13s. 6d.; 25 East Carn Brea, £8⅞.

**GEORGE MOORE**
1, CROWN COURT, THREADNEEDLE STREET.
In any business that George Moore is favoured with, in which he is the buyer, he will give CASH ON RECEIPT OF TRANSFER.

**JAMES HERRON has FOR SALE the following SHARES,** at the prices quoted, and FREE OF COMMISSION:—

| | | |
|---|---|---|
| 15 Aberffryd. | 3 Long Rake, £18 17s. 6d. | 30 So. Car. Hooper, 14s. |
| 20 Alfred Consols, 19s. 6d. | 50 Lady Bertha, 15s. 9d. | 2 South Basset, £7¼. |
| 1 Basset, £70. | 20 Linares, £7½. | 30 South Herodsfoot. |
| 5 Bryn Gwiog. | 5 Ludcott. | 50 St. David's, 3s. 9d. |
| 10 Bottle Hill. | 10 Marke Valley, £7¾. | 3 St. Ives Consols. |
| 20 Buller and Basset, 3s 6d | 1 Mount Pleasant. | 30 Tincroft, £19¾. |
| 5 Cliffd. Amal., £22⅜. | 20 North Basset, £4¼. | 30 Treweatha, 20s. |
| 2 Cook's Kitchen, £27. | 5 North Buller, £6½. | 100 Tamar, 14s. |
| 2 Caradon Consols. | 20 N. Treskerby, £3 17s. 6d. | 5 Tolcarne, £3¼. |
| 30 Caradon Hill, 27s. | 5 Nangiles. | 30 Tolvadden. |
| 50 Carnewas. | 50 New Wh. Martha (fully paid). | 100 Utd. Mexican, £7 2s 6d |
| 10 Calvadnack, £6 18s. 9d. | 100 North Rhine. | 50 Vale of Towy. |
| 20 Crelake. | 20 North Dolcoath, 39s. | 100 Worthing, 11s. 3d. |
| 20 Cefn Cilcen. | 1 New Seton, £125. | 1 Wheal Seton, £254. |
| 1 Copper Hill, £86. | 5 North Roskear, £29 18 9. | 1 West Caradon, £29¾. |
| 30 Drake Walls, £2 6s. 3d. | 5 North Frances. | 1 West Sharp Tor. |
| 50 Dale, 12s. 9d. | 50 Nova Scotia, 16s. 6d. | 30 Wheal Union, £4 16s9d |
| 100 Don Pedro No. del Rey. | 30 Nant-y-Iago. | 50 Wheal Unity, 8s. 6d. |
| 50 E. Clogan (5s. paid). | 50 Montes Aureos, £2⅝. | 10 Wh. Grenville, £5 11 3 |
| 10 East Carn Brea, £8⅜. | 50 North Minera, 4s. 3d. | 1 West Seton, £257½. |
| 1 East Basset, £98⅝. | 30 New S. Caradon, 12s. | 20 West Trevelyan, 4s. 6d. |
| 30 East Seton, 8s. 6d. | 10 No. Downs, £2½. | 30 West Penstruthal. |
| 20 E. Rosewarne, £3¾. | 20 North Busy, 15s. 6d. | 20 Wheal Ellen. |
| 20 East Russell, £3 13s 9d | 30 North Robert. | 20 Wheal Jane. |
| 1 East Pool. | 5 North Crofty, £4⅝. | 10 Wheal Uny, £6 13s 9d. |
| 20 East Grenville, 49s. 6d. | 10 North Pool. | 20 Wh. Harriett, £3. |
| 5 East Caradon, £36 1 9 | 6 Polbreen, £14. | 5 Wheal Grylls. |
| 10 East Grylls. | 20 Pendeen, £7 14s. 6d. | 5 Wheal Hearle, £2¼. |
| 50 East Brookwood, £4½. | 1 Providence, £42. | 1 Wh. Margaret. £31¼. |
| 10 East Wheal Agar. | 50 Prince of Wales. | 20 Wheal Edward, £2 18 9 |
| 30 East Martha (fully pd.), 8s. 9d. | 100 Port Phillip, 31s. 6d. | 20 Wheal Pollard. |
| 10 Fortuna, £5 1s. 9d. | 20 Pedn-an-dren, 18s. 9d. | 1 Wheal Buller. |
| 30 Glasgow Caradon Consols, £4¼. | 20 Quebrada. | 10 Wheal Crebor, £3 3s. |
| 5 Gonamena, £2¾. | 10 Rosewarne Utd, 25s. 9d. | 1 Wheal Trelawny. |
| 100 Gt. North. Cop., 4s. 9d. | 10 Rosewarne Consols. | 20 Wheal Emma. |
| 1 Great Fortune, £36. | 4 Roskearnowth, £10. | 1 Wheal Friendship, £100 |
| 5 Great Wheal Vor. | 20 Rosewall Hill, £3 2s. 6d | 30 Wh. Kitty (St. Agnes), £7¼. |
| 10 Gt. So. Tolgus, £5¼. | 30 Redmoor. | 5 Wh. Kitty (Lit.), £8⅝ |
| 1 Grambler, £11½. | 1 South Caradon, £410. | 5 Wendron, £12½. |
| 50 Great North Tolgus. | 10 S. Carn Brea, £3¾. | 5 West Stray Park. |
| 20 Gt. Retallack, 6s. 9d. | 30 St. Just United. | 50 Yudanamutana, £3 13 9 |
| 30 Hingston Down, £2 16 9. | 1 South Frances, £90. | 50 Wheal Ellen (S.A.). |
| 50 Hawkmoor. | 10 South Phœnix. | 5 West Frances, £12¼. |
| 30 Iligan, 33s. 6d. | 50 St. Day United, 15s. 6d. | 20 Wheal Prosper. |
| 30 Kelly Bray. | 30 Santa Barbara, 13s 9d. | 50 Wheal Norris. |
| | 10 St. John del Rey, £56. | 5 West Chiverton. |

And is a BUYER of 20 Bryn Gwiog, 200 Treweatha, and 100 Hingston Down.
2, Adam's-court, Old Broad-street, May 15, 1863.

**MESSRS. VIVIAN AND REYNOLDS, 68, OLD BROAD**
STREET, LONDON, E.C., MINING ENGINEERS, INSPECTORS of MINES, COMMISSION, and GENERAL AGENTS for the PURCHASE or SALE of MINE SHARES, RAILWAY, and EVERY OTHER DESCRIPTION of STOCK.
Commission on share transactions 1¼ per cent. on £100 and above, and 2½ per cent. on less sums.

**MR. EDWARD COOKE, SHAREBROKER,**
75, OLD BROAD STREET, LONDON, E.C. Advice given on application on the merits of the various mines currently dealt in.
Bankers: London and Westminster, Lothbury.

**MR. GEORGE BATTERS** strongly recommends his friends to buy Tincroft, West Chiverton, Chiverton, Herodsfoot, South Carodon, and Devon Great Consols for investment. These shares will pay good interest for money at present quotations.—5, Cowper's-court, Birchin-lane, E.C.

**MR. BATTERS PUBLISHES a DAILY STOCK, SHARE, and** MINING CIRCULAR containg particulars of all movements in Bullion, Foreign Exchanges, Consols, Foreign Stocks, Railways, Mines, &c., and can be had by his clients free, on application.—5, Cowper's-court, Birchin-lane, London, E.C.

**WEST CHIVERTON.—The investing public (hitherto excluded** from participating in the profits of this valuable property from the fact that, till now, it has been worked privately by a single individual) can obtain shares through the advertiser at 20¼l., at which price dividends at the rate of about 20 per cent. per annum may be confidently expected, independent of future discoveries.
5, Cowper's-court, Birchin-lane, E.C. G. BATTERS.

**NORTH CROFTY.—This mine is destined to occupy ere long a** first place in the list of the successes of the rich Dolcoath district.
5, Cowper's-court, Birchin-lane, London, May 15, 1863. G. BATTERS.

**ILLOGAN MINES.—Already discoveries of importance have been** made. The locality is the best in England, being under the shadow of Carn Brea Hill. Management the same as Tincroft. Shares should be bought.
5, Cowper-court, Birchin-lane, London, E.C. G. BATTERS.

**FOR SALE, EACH NETT:—**

| | | |
|---|---|---|
| 3 Bryn Gwiog, £28¼. | 3 Grambler £13½ (c. pd.) | 50 E. Grenville, £2⅜, c. pd. |
| 1 Basset, £67½. | 10 Kitty (Lelant), £8⅞. | 25 Redmoor, 2s. 6d., c. pd. |
| 10 Great South Tolgus, £5 | 5 Trelawny, £17. | 5 Prosper (offer wanted). |
| 1 New Seton, £125. | 5 Wendron Con., £12½. | 25 W. Stray Park, £3½. |

WANTED:—North Robert, 15s.
Apply to J. W. Hutchinson, Mining Exchange, Royal Exchange-avenue, London, E.C.
Bankers: City Bank.

**MR JOHN METHERELL, MINE SHARE DEALER,**
2, BIRCHIN LANE, CORNHILL, LONDON, E.C.
Mr. J. Metherell, having been practically engaged in mining for the past 30 years, is enabled to give sound advice as to dealing in shares.
Telegraphic orders punctually attended to.

**JOHN RISLEY, 32, LOMBARD STREET, LONDON, E.C.,**
SHARES in MINES BOUGHT and SOLD on commission, at 1¼ per cent. for immediate cash. Bankers: London and Westminster, Lothbury.

**MR. G. D. SANDY, SHAREDEALER, No. 48,**
THREADNEEDLE STREET, LONDON, E.C., has the following SHARES FOR SALE:—

| | | |
|---|---|---|
| 5 Clifford Amalgamated. | 5 Great South Tolgus. | 5 Tincroft. |
| 1 Copper Hill. | 10 Great Fortune. | 15 Tolvadden. |
| 1 Condurrow. | 20 Hingston Down. | 50 West Great Work. |
| 10 Cwmbrane. | 15 North Dolcoath. | 100 Wheal Crebor. |
| 25 Drake Walls. | 10 North Basset. | 30 Wheal Edward. |
| 2 East Basset. | 5 Pendeen Consols. | 20 Wheal Harriett. |
| 50 East Rosewarne. | 10 South Carn Brea. | 15 Wheal Grenville. |
| 10 East Russell. | 1 South Frances. | 25 Wheal Ludcott. |
| | 2 Stray Park. | 5 Wheal Mary Ann. |

Daily price list forwarded on application.

**GEORGE RICE, SHAREBROKER, 1, FINCH LANE,**
CORNHILL, LONDON (20 years' experience).
SPECIAL BUSINESS, at close prices, as BUYER or SELLER, in all market mines.
Speculators and shareholders in mines continually miss the chance of making profits, and instead incur enormous losses by not taking a little "private" advice before buying or selling. George Rice can advise as to East Caradon, East Carn Brea, Crebor, Roskear, North Treskerby, East Rosewarne, Tincroft, &c.
Money advanced on good shares.
May 16, 1863. Bankers: Bank of London.

**WHEAL CREBOR, AND WHEAL HARRIETT.—Parties** wishing to know the "real" merits of these mines, and whether shares should be bought or sold, can apply to Geo. Rice for a few "facts," and his "private" advice.
May 16, 1863.

**MESSRS. WARD AND JACKMAN, STOCK AND**
SHAREBROKERS, 2, ADAM'S COURT, OLD BROAD STREET, AND MINING EXCHANGE, LONDON, E.C. (Established Ten Years.)
TRANSACT BUSINESS in BRITISH AND FOREIGN MINING SHARES and OTHER SECURITIES at closest prices, nett or on commission, but not being DEALERS only execute orders confided to them.
Telegraphic messages to buy or sell shares of every description promptly executed for immediate cash, or the fortnightly settlements.
Commission, 1¼ per cent. on all transactions.
May 15, 1863. Bankers: London and Westminster, Lothbury.

**MESSRS. T. P. THOMAS AND SON, MINING AGENTS,**
GENERAL SHAREDEALERS, AND AUCTIONEERS,
2, CROWN COURT, THREADNEEDLE STREET, LONDON, E.C.

**MESSRS. T. P. THOMAS AND SON beg to inform their** friends and the public that their NEXT SALE of MINING SHARES by PUBLIC AUCTION will be HELD at Garraway's Coffee-house, Change-alley, Cornhill, London, on THURSDAY, the 21st day of May next, at One o'clock.
The following, together with many other shares, will be offered:—

| | | |
|---|---|---|
| 50 North Rhine. | 190 Wheal Edward. | 168 East Carn Brea. |
| 5 Alfred Consols. | 15 Tincroft. | 5 Bryn Gwiog. |
| 5 East Wheal Falmouth. | 2 West Sharp Tor. | 2 East Basset. |
| 5 Bedford United. | 3 South Basset. | 10 Kelly Bray. |
| 50 Crelake. | 5 Great Barrier. | 10 Treweatha. |
| 6 Dev. & Cornwall Utd. | 60 East Devon Consols. | 5 South Condurrow. |
| 426 Trumpet United. | 20 Hawkmoor. | 30 Gawton. |
| 10 South Gorland. | 20 Lady Bertha. | 20 Treworlis. |
| 180 Carnewas. | 20 East Darren. | 8 Okel Tor. |
| 42 West Penstruthal. | 20 Redmoor. | 50 Calstock. |
| 100 Nant-y-Iago. | 20 Unity. | 50 Tolvadden. |
| 12 Calvadnack. | 10 Norris. | 5 Spearne Consols. |
| 75 Illogan. | 15 Alfred Consols. | 20 East Caradon. |
| 75 New So. Caradon. | 40 Alt-y-Crib. | 12 Elijah and Wentworth. |
| 5 Long Rake. | 100 Bottle Hill. | 5 West Fowey Consols. |
| 100 New Prospidnick. | 120 Nanteos and Penrhiw. | 5 Wheal Margery. |
| 78 Rosewarne Consols. | 50 Prosper United. | 2 Cargoll. |
| 67 Great Retallack. | 50 South Caradon Hooper. | 2 West Tolgus. |
| 10 Union. | 50 South Darren. | 5 Herodsfoot. |
| 20 Wheal Caradon. | 2 Boscean. | 10 Calvadnack. |
| 50 Wheal Pollard. | 100 Buller and Basset. | 30 Kitty (St. Agnes). |
| 3 Uny. | 24 East Konisburg. | 5 Great Fortune. |
| 5 Tremayne. | 10 South Gorland. | 25 Central Minera. |
| 60 East Gunnis Lake. | 440 Crebor. | 20 Cefn Cilcen. |
| 40 East Rosewarne. | 7 North Roskear. | *** East Providence. |
| 170 North Robert. | 39 Roskearnowth. | 2 Wheal Seton. |
| 10 East Jane. | 10 East Caradon. | 100 North Minera. |
| 120 Tamar. | 1 South Tolgus. | 1 Carn Brea. |
| | 75 Crookhaven. | |

Parties desirous of purchasing any of the above by private contract can in most cases do so by application to the auctioneers, either personally or by letter.
T. P. Thomas and Son finding that their friends' property is frequently sacrificed for want of publicity, they have determined in future not to offer shares unless previously advertised in the *Mining Journal*.
Mining and other shares bought and sold privately.
Commission and time bargains negociated.
2, Crown-court, Threadneedle-street, London, E.C.

**MR. T. E. W. THOMAS, MINING AGENT AND GENERAL**
MINING SHAREDEALER,
3, PINNER'S COURT, OLD BROAD STREET, LONDON; and
16, HACKINS HEY, LIVERPOOL.
Now ready, SPECIAL REPORTS of East Basset, North Buller, Wheal Grenville, East Grenville, Wheal Harriett, and East Rosewarne, for the sum of 5s. the whole. These reports are by an eminent practical miner, and should be consulted without delay.

**MR. FRANCIS G. LANE, 44, THREADNEEDLE STREET,**
LONDON, E.C., is at all times prepared to BUY or SELL SHARES in BRITISH and FOREIGN MINES at the closest market prices, either for cash and immediate delivery of stock, or for the fortnightly settlement on the usual terms.
Commission, 1¼ per cent.
Bankers: London and County Bank.

| | |
|---|---|
| WHEAL SETON. | SOUTH WHEAL FRANCES. |
| COPPER HILL. | SOUTH TOLGUS. |
| WHEAL TRELAWNY. | WHEAL MARGARET. |
| CALVADNACK. | SOUTH CARN BREA. |
| WHEAL UNION. | EAST CHIVERTON. |
| NORTH BASSET. | NORTH DOLCOATH. |

**MR. FREDK. W. MANSELL, of 75, OLD BROAD STREET,**
LONDON, strongly RECOMMENDS the IMMEDIATE PURCHASE of the ABOVE SHARES, at present market price.
Mr. Mansell is in possession of information respecting the whole of them, which leaves no doubt of a great advance in the price of each of the shares mentioned.

**MR. JOHN R. PIKE, 3, PINNER'S COURT, OLD BROAD**
STREET, LONDON, has FOR SALE the UNDERMENTIONED SHARES, at nett prices, and all calls paid:—

| | | |
|---|---|---|
| 4 Cargoll, £44. | 25 East Treskerby. | 100 Round Hill, £1¼. |
| 3 Craddock Moor. | 45 East Russell, £3 10s. | 59 South Condurrow, 6s. |
| 10 Dyfngwm, £9 10s. | 100 Gawton, 12s. | 4 Stray Park, £37 2s. 6d. |
| 7 Great Fortune, £34 10s. | 50 Gonamena. | 100 Trimley Hall. |
| 15 Marke Valley, £7 8s. 9d. | 3 Gramb. & St. Aub., £15⅛ | 2 W. Bryn Gwiog, £10. |
| 20 West Basset. | 100 Great North Tolgus. | 10 W. Stray Park, £5½. |
| 4 West Caradon, £28 10s. | 50 Great Retallack, 7s. 6d. | 4 West Frances, £15. |
| 20 Aberffrwd. | 100 Hawkmoor. | 200 West Wheal Jane, £⅝. |
| 4 Billins. | 25 Maudlin. | 25 Wheal Edward, £3. |
| 25 Bryntail. | 50 Nant-y-Iago, £2. | 10 Emily Henrietta, £8¾. |
| 10 Clijah and Wentworth. | 100 New Treleigh. | 100 Wh. Harriett, £2 18s9d |
| 5 Crane. | 20 North Buller, £6. | 20 Stithney Carnmeal, £4¼ |
| 25 Cwmbrane. | 50 North Dolcoath, £2. | 15 Wheal Uny, £6⅝. |
| 30 E. Carn Brea, £8 3s. 9d. | 100 Pedn-an-drea, £1. | 20 North Downs, £2 8s.9d |
| 50 East Grenville, 48s. | 100 Redmoor. | 4 Providence, £41½. |
| 100 E. Rosewarne, £3 11s. 3d | 40 Rosewarne Untd., £1⅛ | 6 North Roskear, £29½. |

**THOS. L. COTTINGHAM, MINING ENGINEER,**
MINERAL AND LAND SURVEYOR, AND GENERAL AGENT,
LITTLE NESTON, CHESHIRE, AND MOLD, FLINTSHIRE.

**JOHN GLEDHILL AND CO., MINE AGENTS AN**
SHAREBROKERS, MINING OFFICES, CORN EXCHANGE, LEEDS.

**TO CAPITALISTS.—J. MANSFIELD SMITH,**
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Investors should consult J. M. Smith's monthly "Circular," which will be forwarded post free on application.

**MR. H. WADDINGTON, MINING AND SHAREBROKER,**
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The coming prize is Seton, the best dividend (copper) mine in the West. West and South Tolgus shares should be bought; the points about coming off will probably cause a great rise.

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SURVEYOR, &c., has RETURNED FROM CORNWALL, and may be consulted as usual at 18, Hatton-garden, London, E.C.

# Original Correspondence.

## USE OF PEAT FOR SMELTING IRON.

SIR,—Several letters have appeared in recent numbers of the Journal in reference to this very important subject; I shall, however, only observe on that signed B. H. Paul and that of "Cleveland."

Mr. Paul says he anticipated someone better qualified than himself would have replied to those who preceded him; and I think, for his own sake, it is a pity he did not allow them to do so, as he certainly shows very little knowledge of the subject, and a great amount of dogmatism. I enter into the subject to correct erroneous statements and impressions. I have had, during 25 years, unusual opportunities of witnessing most of the mechanical and chemical efforts which have been applied to the treatment of peat; and although I will not make so positive a statement as Mr. Paul does, who says "*There is no reasonable prospect of peat being used in lieu of coal for smelting iron, where coal is to be had; that his minute and earnest attention and experience makes him confident that his view is the right one.*" We shall see. Mr. Paul will be a very great authority if he can compete as such with an iron smelter of great experience in large works in Wales, and now at his own works, and whose name I will give in private, but must defer for a time publishing. He says—"I have used your peat and peat charcoal; it is superior to anything I have had before under my notice; I will take 100 tons of each weekly for my own use, at —— per ton, and find you a market for 1000 tons weekly. The iron is greatly superior to that made by coal or coke. All the iron-masters will use it. Let me know when you can supply in London, in Liverpool, and Swansea."

The Creevelea Ironworks are referred to by all the writers in the Journal. I happen to have had good opportunity of knowing all about the property, having been employed to go there professionally by Mr. Dargan, the eminent Irish contractor, and the late amiable and excellent Lord Herbert, then the Honourable Sydney Herbert, to inspect and report thereon, with a view to assist the then company with capital: this was in 1853.

Among other things on which I reported was the fact of seeing pig-iron made by peat; the then resident manager was the intelligent and scientific Mr. Patrick Buchan, to whom the proprietors are indebted for a very excellent arrangement of machinery, furnaces, &c. The iron so made I took specimens of to Dublin, at the time the Exhibition was open, and many of the best judges, not only in this empire, but in Europe, saw it, and declared it equal to anything even from Sweden. Mr. Paul says, if there is such an inexhaustible supply of peat at Creevelea, why are extensive workings of coal being laid open? and jumps to the conclusion that the peat is not there, and that the pig-iron made from or by it is not "first-rate." In both these hypotheses he is wrong: the peat *is* there in great abundance, and of excellent quality. I have before shown that iron made from it is superior to any from coal or coke. And if Mr. Paul had informed himself a little further, he would have learned that the coal adits were opened long before the idea of smelting with peat had been entertained—*i. e.*, recently; there is no doubt as to its having been done centuries since. Mr. Buchan's knowledge at once dictated to him that, without some rapid drying and charring medium, peat could not be made available, and, therefore, the resort to coal, as being cheaply worked, and no capital existing to make works for peat, even had the method of drying and charring been then known. I do not know the parties who now rent the Creevelea Works, but I was in the locality a few weeks ago, and was sorry to find they were neither making iron nor pressing peat.

It is not my intention, being myself the inventor of a method for rapidly drying and charring peat, to advertise my own, nor to depreciate that of another; but unless peat can be prepared in a very rapid and cheap manner, it never can substitute coal. That this can be done is quite certain; certainly not by straining through a "cullinder," on the very old Dutch method, nor by drying it in a shed. If Mr. Paul, or any other of your correspondents, will call upon me, I will show him the *modus operandi*.

I have already taken so much space that I can only say to the writer signing "Cleveland," that the quantity of properly prepared peat per ton of iron will be, and is, about 1 ton 15 cwts., the cost being slightly in favour of coal or coke, but the price of the iron made by peat is from 2*l.* to 3*l.* per ton above that from coke or coal. Nor is this all. Prepared peat will generate and maintain steam quicker and better than either coal or coke, and there is no impediment to its general adoption, but that of being able to produce it at a cost to make it commercially advantageous.

I have to say to all those who are really interested in peat, that machinery is now in course of making by a London engineer, for Ireland, by which this very desirable result will be obtained, and I shall be happy to give any particulars to those who call upon me.

*Bank Chambers, Lothbury, May* 13. T. VINCENT LEE, C.E.

## BITUMINOUS MINERALS ANALOGOUS TO COAL.

SIR,—Having lately met with several varieties of bituminous minerals of a peculiar character, it occurred to me that some particulars with regard to them might be interesting to your readers, and I, therefore, send them for insertion in the *Mining Journal*. Many people will, perhaps, be somewhat incredulous as to the discovery of coal in Holland, especially since there have been so many false alarms about the discovery of coal under the London clay. But it is now becoming a recognised fact that the use of the term coal-measures, as applied to the carboniferous series of rocks, is correct only in so far as that is the situation in which coal is most abundantly met with. But it is now certain that minerals, in every respect entitled to be regarded as true coals, are met with in many other geological situations.

Among the abnormal varieties of coal, the one that has recently been discovered at Gildenhuis, in Holland, and described in the *Mining Journal* of April 25, is especially remarkable, inasmuch as its external characters are more distinct from those of ordinary coal than even the Albert coal of Nova Scotia. In this respect it presents a remarkable resemblance to some varieties of native bitumen, and even to the asphaltic residue obtained in the manufacture of hydrocarbon oils, from the re-distillation of the first crude product. Some samples of this artificial asphalt are, indeed, scarcely distinguishable from the Gildenhuis coal in appearance. This resemblance is still more remarkable in regard to the behaviour of this mineral when heated. It does not melt to any great extent, but retains its shape and softens, acquiring the consistence of caoutchouc before it begins to burn.

This character establishes a marked distinction between it and ordinary coal. Albertite also softens, somewhat in the same manner, when heated, but in a less degree, and, at the same time, it breaks up into small fragments. A mineral presenting very much the same character of softening when heated, and acquiring the elasticity of caoutchouc, has recently been discovered in Ross-shire, in making a cutting for the railway near Dingwall. This mineral, of which a specimen was given to me by Mr. Tennant, and with regard to which I have been favoured with some particulars by Mr. Mackenzie, of Dingwall, has all the outward appearance of Albertite—the same brilliant lustre, the same jet black colour and brittleness, and the same fracture. It has not yet been found in any large quantity. It is met with in numerous thin veins, which, like those the Albertite of Nova Scotia, are perpendicular; and, since the discovery of the mineral, it has been ascertained that similar veins appear in the cliffs on the shores of the Cromarty Frith, at a considerable distance. Ether dissolves only 4½ per cent., naphtha a little more. The Gildenhuis coal yields to ether little more than 1 per cent. In this respect, therefore, these substances appear to be analogous to the bituminous substance of coal.

By distillation this Scotch mineral yields—

| | | | |
|---|---|---|---|
| Volatile substance | 62·00 | Carbon | 37·20 |
| Fixed residue | 37·40 = | Ash | 20·00 |
| Water | 60·00 | | |

Albertite yields about 30 per cent. fixed residue, containing 0·31 ash, so that the resemblance in these respects between the two minerals is almost as great as in their appearance. Both these minerals, as well as the Gildenhuis coal, yield by distillation a large quantity of gas and of hydrocarbon oils, and they might be advantageously employed in the manufacture of either product.

These facts are just now of especial interest, on account of the attention that is being paid to bituminous minerals for the purposes of distillation, and the discovery of these minerals in localities that would have been considered very unlikely to furnish them serves to illustrate the necessity for an extended examination being made, with the view of obtaining supplies of such materials. In a geological point of view these minerals are of particular interest as regards the question of the origin of coal. It might be supposed that these minerals have originated from the alteration of peat, and that they represent intermediate states of coal. But the extremely small amount of ash in them appears to be opposed to this view. Peat generally contains as much ash as coal, and sometimes much more, while these minerals have a very unusually small amount of ash as compared with coal. In any case it would be necessary to have more minute details of their geological position before any safe opinion could be formed in regard to this question.

Another material, of a somewhat analogous character as regards its applicability, was lately shown to me as having been discovered in Brazil. It has the appearance of a light sandy clay, being quite earthy in texture, and of a pale ochre colour. It occurs in beds 6 ft. thick, close to the surface. The deposit is said to be very extensive, and it is situated about 50 miles south-west of Bahia, near the right bank of the Acarahy river, and 20 miles from its mouth.

This mineral takes fire readily when held in a flame, and continues burning with a bright smoky flame. When distilled at a low temperature it gives off inflammable gases and a large quantity of hydrocarbon oil, amounting to from 60 to 85 gallons per ton. This oil, when rectified in the usual manner, yields an excellent material for burning in lamps. On the average it yields:—

| | | | |
|---|---|---|---|
| Volatile products | 62·00 | Carbon | 11·20 |
| Fixed residue | 38·00 = | Ash | 26·80 |

When treated as for making gas it yields as much as 8960 cubic feet per ton of gas, having a very high illuminating power, being equal to 29 sperm candles, which is far above the power of ordinary gas. The coke, of course, is not of any great value, by reason of the large amount of ash and the small proportion of fixed carbon.

Of course this mineral would not bear the cost of transport to this country; but as gasworks are now being erected in several parts of Brazil this material would be exceedingly valuable for this manufacture; and, moreover, it would be worth while employing it for the production of hydrocarbon oil, as these oils are now being largely used in Brazil, and bear a very high price there.—8, *Gray's Inn-square*. B. H. PAUL.

## ON THE EARLY CONDITIONS OF THE GLOBE.

SIR,—Truly, knowledge is power. The increasing geological knowledge of the last half century gives us the power of reading, with much exactitude, the ancient history of the planet that we inhabit. But, in order to be proficient readers of this history, we must be acute observers, and be perseveringly industrious in gathering facts. Not to hoard them up as a miser would do his gold, but to generalise them, so that sound rational conclusions may be arrived at, and a general benefit conferred.

It is evident that there is a striking analogy between the views held by "Cosmo," Mr. Alison, and myself on the early conditions of the globe. "Cosmo" not only agrees with me as to the causes which I have assigned as effecting the diminution of the primitive ocean, but points out another, which he considers of a more universal character. As this is one which I had not considered at all, I could, therefore, have taken more interest in it, and formed an opinion of it, had your correspondent entered a little more into its elucidation. With respect to the earth ever returning to its primitive state, I hope that he does not think I entertain such an idea. I merely used the converse of the refrigerative principle to convey a more forcible impression.

There are several other points, having very important geological bearings, on which I could have wished to dwell a little, but I am afraid it would be intruding on your space. Permit me, at present, to just draw the attention of your readers to an appreciation of the mechanical value arising from the earth's materials coming into closer union. In my former communication I stated that the materials of the globe have been coming into closer union, and heat has been escaping into exterior space; also that the maxima of the gaseous and fluid coverings of the globe have long since passed by; and that the solid crust has kept enlarging. Then, in order to form a due estimation of the mechanical value of the falling of the molecules of matter towards each, I cannot do better than make a quotation from Prof. Tyndall's work on "Heat considered as a Mode of Motion."

"Let us, then, fix our attention upon this wonderful substance—water, and trace it through the various stages of its existence. First, we have its constituents as free atoms, which attract each other, fall, and clash together. The mechanical value of this atomic act is easily determined. Knowing the number of foot-pounds corresponding to the heating of 1 lb. of water 1° Cen., we can readily calculate the number of foot-pounds equivalent to the heating of 34,000 lbs. of water 1° Cen. Multiplying the latter number by 1390,* we find that the concussion of our 1 lb. of hydrogen with 8 lbs. of oxygen is equal, in mechanical value, to the raising of 47,000,000 lbs. 1 ft. high. I think I did not overrate matters when I said that the force of gravity, as exerted near the earth, was almost a vanishing quantity, in comparison with these molecular forces; and bear in mind the distances which separate the atoms before combination—distances so small as to be utterly unmeasurable. Still, it is in passing over these distances that the atoms acquire a velocity sufficient to cause them to clash with the tremendous energy indicated by the above numbers.

After combination the substance is in a state of vapour, which sinks to 212°, and afterwards condenses to water. In the first instance, the atoms fell together to form the compound; in the next instance the molecules of the compound fell together to form the liquid. The mechanical value of this act is also easily calculated; 9 lbs. of steam, in falling to water, generate an amount of heat sufficient to raise 967 × 9=8703 lbs. of water 1° Fahr. Multiplying this number by 772, we have a product of 6,718,716 foot-pounds as the mechanical value of the mere act of condensation. The next great fall of our 9 lbs. of water is from the state of liquid to that of ice, and the mechanical value of this act is equal to 993,564 foot-pounds; thus our 9 lbs. of water, in its origin and progress, falls down three great precipices. The first fall is equivalent to the descent of a ton weight urged by gravity down a precipice 22,320 ft. high, the second fall is that of a ton down a precipice 2900 ft. high, and the third is equal to the descent of a ton down a precipice 433 ft. high."

From these examples I leave your readers to judge of the prodigious mechanical value of the act of the earth's materials coming into closer union. Tremendous must have been the weights, and fearful the precipices over which they have fallen.—*May* 13. J. C.

* 772 foot-pounds being the mechanical equivalent for 1° Fahr., 1390 foot-pounds is the equivalent for 1° Cen.

## THE MINERAL INDUSTRY OF FRANCE.

SIR,—The benefits of the late Treaty of Commerce are only just beginning to be felt; a movement is taking place. All those manufacturers who believed themselves ruined on this side of the Straits are doing so well they can hardly believe in the reality, although they feel through their pockets that "a change has come o'er the spirit of their dream," and out of imagined evil has sprung a realisable good. The dormant spirit of enterprise of the French nation has just commenced waking up; it is rubbing its eyes to get them open, and there is really, I think, some hope that, should peace continue and rumours of war cease, the hopes of the founders of the said Treaty of Commerce may be realised. The above remarks, however, will hold good only so far as general commerce and manufactures are concerned; but (I trust my fears may be unfounded) the indifference which exists with regard to the development of the underground riches of this still unexplored country, so far as practical mining in reference to the real subterranean wealth of France is concerned, continues in as a great a degree as ever, and mining enterprise remains almost in the same place it has been for the last 50 years, and it is only lately that a slight degree of attention begins to be paid to this most important branch of national industry. The following data, taken from the *Journal des Mines*, will show how much yet remains to be done, and with what prospects of success, if we may judge the future by the past and present. The capital employed in French mining enterprise, says the *Journal des Mines*, in France amounts to about 14,250,000*l.* sterling, paying a dividend of 16 per cent. What can be better? The following will show the existing number of known mines, and their products, existing in France:—

| | | | | | |
|---|---|---|---|---|---|
| Copper | 100 | mines. | Chromium | 3 | mines. |
| Lead | 400 | „ | Cobalt | 8 | „ |
| Silver | 6 | „ | Nickel | 3 | „ |
| Tin | 7 | „ | Bismuth | 2 | „ |
| Antimony | 50 | „ | Arsenic | 10 | „ |
| Gold | 20 | „ | Graphite | 25 | „ |
| Quicksilver | 5 | „ | Bitumen, &c. | 26 | „ |
| Manganese | 50 | „ | Salt springs | 70 | |

Over 2000 iron mines and deposits of iron ore, 800 beds of turf, besides immense deposits of the carbonates, explored in more than 300 different places, and giving products superior to those of any other nation on the whole Continent. Of the 2000 deposits of iron ore, 1590 only are explored and being worked, say 8-10ths of the whole number; and of 740 mines of other metals, 51 only are in work, and that very lately. The whole number in work in 1850, 13 years ago, was only 19: thus nearly the whole of the mines capable of producing other minerals than iron remain in an unproductive state. Is it because copper, lead, zinc, cobalt, nickel, tin, or silver, give inferior profits to iron? Decidedly not, say we. Whence, then, springs the generally received opinion that Germany, Hungary, Sweden, Italy, and England possess greater mineral riches than France? From the simple fact that other countries, less rich than France in the products of the soil, have been forced to give a greater amount of attention to mining. The comparison of the mineral riches of France with those countries celebrated for their mines, such as England, Prussia, and Germany, will show that the absolute mineral wealth of France is far superior to either of the above, both as regards extent and population. Spain alone is opposed to us for richness of metalliferous deposits, but cannot be compared to us for a moment for combustible products.

In spite, however, of this incontestible superiority accorded to us by all practical authorities, French capitalists remain indifferent to the inducements offered for investment by our mineral riches lying at our very doors, and prefer speculating in foreign enterprises, whereby they too often become the dupes of intriguers and ignorant would-be engineers. This indifference seems the more surprising when it is to be remembered that the number of small fortunes in France is greater than in any other country in the world, and that those possessing these medium competencies never lose an occasion for investment in any foreign or national loan offered for subscription in Paris, and are besides exceedingly fond of speculating on the Stock Exchange.

Notwithstanding many new concessions of coal mines have been granted by Imperial decree within the last few years (1857 to 1863) and recently a new concession in the western part of the Coal Basin of the Pas de Calais to Messrs. Laurent, Paternotte, Lorédan Lorédan, and Guille Imbond. The concession was first solicited in 1859, in the month of March, and the company have opened up considerable works in the district of the commune of Haisnes, near the high rood from Arras to Lille. The Minister of Public Works reports as follows:—May 10, 1861.—The engineer-in-chief of the mines of the departments of the Nord and Pas de Calais records the following:—Five veins of coal have been re-cut in the workings of Haisnes, all very explorable. They produce a coal which, although of a somewhat friable nature, is equal to the coal of the neighbouring concessions. In the works of Pit No. 2, belonging to the Béthune Company, at Bully-Grenay, a vein of Cannel coal has been cut, about 60 centimetres, or 2 ft. thick. The Calais basin now possesses every known quality of coal.

The opening of two new lines of railway from Amiens to Rouen, and Bully-Grenay to Lille, will bring into immediate connection with that wonderfully rich basin extending from Douai to Aire, the most industrial, commercial, populous, and active region of France—viz., that comprised between Paris, Valenciennes, Lille, and Havre, and must inflict a serious injury on the English coal trade with France. The French marine, which was for years supplied with English coal, is now furnished with French coal, and trials have proved it equal to the best Newcastle.

In my next communication I intend to give you a review of the principal metalliferous deposits in France other than coal and iron.

H. W. H.

## THE MANGANESE MINES OF THE PROVINCE OF TERUEL, ARAGON, SPAIN.

SIR,—There are two different districts where manganese is found. At a place called Camanas, some 25 miles from this town, there are several veins, and rich, averaging 85 to 90 per cent. of manganese, but until railroads pass through this town they cannot be worked, as freight to the coast from Camanas would be about 3*l.* per ton. Those near Teruel, about four miles distant, with a cart-road all the way to Valencia, as a shipping port, might be worked with success. The ore is also very pure, and is used in Valencia for colouring bricks at Mr. John Davies's factory, for the manufacture of bricks resembling those of Minton. These veins are situated in alluvial deposits of the most recent class, such as pebbles and gravel, mostly white quartz, and the thickness of these beds of pebbles is about 100 ft.; underneath this alluvial deposit are strata of limestone and clay. It is the first time I have seen a vein piercing such recent deposits, and of such thickness. The silver mines in Chili are certainly in very recent stratified limestone rocks, and the veins cut through seams of innumerable fossils and ammonites, some weighing 100 lbs., but I had never seen a vein cutting through quartz gravel, for manganese is generally found in porphyritic rocks.—*Teruel, April* 29. HENRY SEWELL.

P.S.—I should like very much to know how advocates of the formation of minerals in veins through infiltration from the neighbouring rocks will prove to me the infiltration of manganese from gravel, a porous substance, where this mineral would travel downwards through the porous mass, unless the vein called out—"Come, old fellow, Manganese, travel horizontally across to me, against your principles of gravitation." In stratified rocks they certainly have it easier to form some theory, as the minerals in solution would travel horizontally, or, as it might be, towards the veins, through the seams; but the problem I have placed before them will prove interesting. My next letter will describe an excursion to the Sierra de Albaracin, and its argentiferous copper veins.

## THE SULPHUR MINES AND FACTORIES OF ARAGON AND MURCIA, SPAIN.

SIR,—Some business is carried on at present in this town in sulphur, in various forms; such as flowers, ground and sifted, for the vines, rock for the powder works in Villafeliche, and *Spanish* Sicilian for sulphuric acid, used at the various stearine candle factories of Madrid, Barcelona, and Burgos. Since I arrived in Spain, in 1860, the increase of the vine disease has been very great. I had an opportunity of noticing this last year, having visited the principal vine-growing districts of Spain. In many places the peasants were uprooting their vines, with the intention of planting other agricultural products. I, however, carried some of the tracts published by the Spanish Government for the cure of the vine disease with ground sulphur, and thereby prevented some from destroying their vines. The factories here are not able to supply one-fourth of the demand at present, but the owners are increasing their smelting operations. The mines are situated some 12 miles south of Teruel, near the River D'Eva (Eve), which separates the kingdom of Aragon from that of Valencia. These exist in the shape of horizontal beds or seams, intervened by stratifications of limestone (with various fossils) belonging to the Jurassic system; in fact, the sulphur seams themselves are impregnated with innumerable small fossils, originally lime, but transformed into native sulphur, the same as those in Mansfeldt, in Germany, fish converted into copper pyrites; impregnations of plants, &c., are also found, and here and there small seams of lignite in which latter galena is also found. Samples of the sulphur ores and fossils can be seen by any person interested in geology at Mr. Herbert Morrisson's, 15, Bishopsgate-street, London. These mines were formed as sedimentary deposits.

In the province of Alicante I visited a mine, of which I am now part owner, of a very different origin; being a perpendicular vein about 7 feet wide, of native sulphur, and impregnated throughout with quartz crystals, in a loose form, each crystal separate and perfect, and, like garnets, embedded in a lead-coloured clay, forming the fahlband of the vein, and clear as diamonds, about the size of a pea. The daughter of the owner of this mine, Dolores Lopez, an Iberian beauty, the day I arrived at the mine was in a high state of excitement; her sparkling eyes were the only diamonds that I saw, for she had carefully concealed the quartz crystals from strangers awaiting my arrival, fully hoping that my opinion would pronounce them to be diamonds. The owners of this mine having no combustible of any class near at hand, have made arrangements for the use of my patent; that of smelting the richer ores with the poor, the latter used as a combustible, such being the case in Sicily, where I was last year, on a visit to those mines and works, where over 100,000 tons of sulphur are produced without coal or vegetable combustible. At Lorca, a town of some 30,000 inhabitants, in the province of Murcia, there are fourteen factories, and their wood is brought in vessels from the Balearic Islands, and carried up country some 22 miles in ox carts; the price per ton of pine wood being 1*l.* 18s. placed at the factories. The mines are sedimentary deposits, like those of Teruel, the only difference being in the dip of the strata, and instead of shells the beds are impregnated with small fish fossils, converted into native sulphur.

In Arcos, in Andalusia, there is also a sulphur mine; this is of volcanic origin, carrying quartz crystals, as is the case near Alicante. The Sicilian process, besides being 30 per cent. cheaper than the old system of iron retorts, with wood as combustible, has the great advantage of little outlay in plant, and the materials for these furnaces are only stone and mortar. The price or cost of a Sicilian furnace is 16*l.*, and produces 10 tons of sulphur per month: 100 tons of sulphur are produced by 10 furnaces, the cost being 160*l.* in plant. By the iron retort system 15 tons a month are produced, the outlay in plant being about 600*l.* for producing those 15 tons; therefore, to produce 100 tons by this method 7 × 600*l.* = 4200*l.* are required. I have erected a mill for grinding and sifting sulphur, this clas

being 25 per cent. cheaper than sublimed flowers, and is preferred by vine growers here.—*Teruel, Aragon, Spain, April* 29. H. SEWELL.

## SILVER AMALGAMATING MACHINERY.

SIR,—Some few weeks since I forwarded you a communication in reply to the assertion of Mr. F. Ignacio Rickard, the Government Inspector-General of Mines for the Argentine Republic, that after careful search he "was not able to find a set of good amalgamating machinery for silver ores, or introduce a single improvement in their treatment beyond what is already known in the Republic," and must apologise for not having before this complied with your request for further information relative to the amalgamation of chlorides of silver. My explanation is, that I have been absent from here erecting Sicilian furnaces at various factories, including my own, near this place, as well as those at Alicante and Lorca, in Murcia, and Arcos, near Seville, in consequence of the Spanish Government having granted me a patent for five years for the introduction of the Sicilian method of smelting sulphur ores without combustible of any class, using the poorer ores for the fusion of the richer. The best and most complete amalgamating machinery, as I wrote you in my last, was made at Neath Abbey, and is in operation at Mr. Edward Abbot's establishment in Copiapo, not only for chloride of silver but also for gold ores. In 1855 I amalgamated 2 tons of copper ore from Tres Puntas, north of Copiapo, which gave 12 lbs. of gold. I forward you a sketch of a Chilian mill and amalgamating machinery for silver or gold.

In the sketch sent, a water-wheel, 15 ft. diameter and 3 ft. front, moves a long horizontal axle, and sets the smaller perpendicular axles in movement. The tubs are stationary. To the perpendicular axles are attached two cross pieces of flat iron, 6 in. wide and 1¼ in. thick, in contact with the bottom of the *wooden* tub, which has an iron bottom, 2 inches thick. This friction gives a certain heat to the quicksilver, and the iron assists in the decomposition of the chlorides, by forming chloride of iron, and leaving the silver in a native state, which is the only way it becomes soluble in the operation in the quicksilver. The advantages of the Chilian amalgamating tubs are very great over the Freiberg system of barrels, where not only the weight of the barrel, and ores, &c., it contains, rotate, but the trouble of charging and discharging the ore and refuse is very great, and the motive power required is also very great. In Chili only the axles and crosses rotate, the tubs remaining stationary, consequently little motive-power is required. The tubs have covers, which are lifted on charging the ore, and closed afterwards. A small door *over* the level of the quicksilver is opened to let out the refuse and water; the amalgam, or rather, the dissolved silver and quicksilver is tapped at a groove in the cast-iron bottom. The tubs are 5 ft. in diameter and 4½ ft. high, but I have seen them 8 ft. in diameter. The ore is thrown in, and water-pipes are placed at a higher level, to liquidate the mass of ore, which is kept in a thick mass for 18 hours, thick enough to make the quicksilver float about, and *not* fall to the bottom of the tubs, and is separated into innumerable small globules by the crosses, thereby coming in contact with each minute particle of silver, and uniting together. After these 18 hours the level is raised by water being allowed to rush in, thereby precipitating the amalgamated portions of silver through liquidation of the mass of thick paste; this operation of washing and turning off the refuse is carried on for six hours. The Chilian mills have pits for receiving the *liquid* ground ore. The ore is thrown into a wooden tub, round the mills, and there is a water-pipe that continually lets water into the tub, and keeps it to the proper level, and only the light particles that float can be carried to the pits through a gauze sieve. As for the ore, it must be ground to an impalpable powder, in order to amalgamate properly. In gold this process is very useful, as, by placing quicksilver in the mill, a great part of the gold is already amalgamated, and the refuse is put into the tubs. The ore is placed into the mills half the size of a walnut, but if it were placed in smaller still, by having previously been crushed between iron cylinders, it would very much augment the amount ground. Iron cylinders, such as used for crushing copper quartz ores for sampling, as used by Messrs. Bath and Sons, of Swansea, would do. A combination of Chilian mills, cylinder crushers, and tubs, I believe to be the best and cheapest plan for gold ores; at any rate, the cheapest kilns for baking quartz gold ores should be employed, and while hot, cold water thrown on the ore, this splits the quartz into pieces, and softens it for grinding. HENRY SEWELL.

*Teruel, Aragon, Spain, April* 25.

## MINING ON LAKE SUPERIOR—No. II.

SIR,—In my last letter I barely mentioned the position of the MINESOTA MINE. The operations are conducted on two lodes running nearly parallel, and about 100 ft. apart; their course is nearly east and west. Work was confined to the north vein for the first three or four years, but after that the south, or conglomerate, lode was found the most valuable for mineral, and the ground much more favourable for spending. The north vein, however, was quite rich in mass and barrel copper, and both of them producing thus largely at the same time set the concern at once up to a point of remunerating stockholders with princely dividends. Some time after both veins were worked in concert; a caunter was found making between both lodes, a little west of the main workings. It appeared after leaving the north lode to have almost completely annihilated that vein, but as it came in on the master, or south, lode it was accompanied with immense deposits of metal. Just then, looking at the north lode going west, there appeared no evidence such as had been passed through before, nothing but a barren seam; consequently, the amateur authories on "Lake Superior Mining" pronounced that there was no more north vein going west, that the caunter, so called, was nothing more nor less than the north vein itself swung round at an acute angle, and forming in upon the south, conglomerate, or master vein. The mine was so extensive and rich throughout at this time, that with working out the caunter the north lode was left untried going west. The north lode dips more vertically than the south one, with some difference in parallelism, causing a junction of both lodes at different levels in accordance with their respective convergence or divergence; and at those points where the junction has been met there have generally been heavy accumulations of mineral. Last summer and fall it began to be apprehended, by the falling off in product, and the increasing scarcity of rich ground, that the day had passed in which the Minesota could be classed first amongst the large mines of Lake Superior; in fact, backing up this apprehension was the indisputable truth that for a few months during the fall, with the decrease in returns and low price of copper, the mine did not actually more than pay expenses. But matters have recently changed, and a more auspicious future appears in view than it has been the good fortune of even the Minesota shareholders to indulge in for a considerable time past. The mine is down nearly 1200 ft., and in the lowest depths heavy mass, barrel, and stamp copper is as frequent as the most sanguine miner could wish. Coupled with this is the resuming of operations on the north vein, west of the caunter, with the most satisfactory results, where, as I stated before, nothing but a barren seam was left showing any indication of the vein. Exploitation has proved that but a short distance beyond the vein continues regular and well defined, with all its former characteristics, and paying an excellent profit for working. It happens that the south vein has been worked down for several levels under where operations on the north vein have been lately resumed, and from the junction of the two veins the south vein has been stoped out to surface, thus suspending this heavy body of ground (100 feet in width at the top, narrowing down to a wedge) on the stull timbers of the south vein. The pressure was so great that the timbers yielded, and caused the dead ground to separate about 3 in. from the footwall of the north lode. To prevent it becoming more serious the stulls have been filled with rubbish from surface, and the ground is now resting upon a firm basis. And in this singular circumstances the company have reaped a great gain, as the separation of the lode from the south ground makes it much more economical for mining. Above the point of junction on the north vein there are thousands of fathoms of good paying ground now thrown open for working. To operate this extensive sett there are eight working shafts in use, with levels connecting them at from 60 to 80 feet apart. Four steam-whims are kept constantly in attendance, and an engine of 40-horse power engaged in draining the mine of water; the power, however, necessary for unwatering the mine is but little, except during very wet seasons, and even then the engine in use is fully adequate. A steam Cornish stamps of twelve heads is also employed some distance from the mine in reducing and cleaning the finer class of copper, and if criticism were allowed, it would be to the effect that the stamps and mode of treatment are by far too insufficient for the true interests of the mine; that while commendable liberality in many branches connected with the operations characterises the company, they should mistake a matter of limited stamping facilities as a point of economy. The whole number of persons drawing their support from these works is about 800, and the total average expenses (say) $30,000 per month. For the fiscal year ending Jan. 1, 1498$\frac{1}{2}\frac{4}{5}\frac{4}{5}$ tons of rough copper was raised, equal to about 70 per cent. of pure metal. The books of the company show a profit of a little over $209,600 for the same period. Since Aug. and Sept. last the returns have increased over 30 per cent., with but little additional cost of production. It may also be safe to put the average price of copper down at several cents per pound above the ruling rate for the year past, and upon an increased product, or (say) 1600 tons for the year, which, it is said, the mine can yield without any strain, from which the observer can gather that the prospects of the mine are certainly encouraging.—*Lake Superior, April* 7. A CORRESPONDENT.

## THE HARTLEY RELIEF FUND.

SIR,—I am sure the subscribers to the Hartley Fund are much indebted to you for the information you have published with regard to the distribution which the general committee have resolved upon, and I believe there are but few who would not have felt disappointed had your comments been left unnoticed by Mr. Henry Taylor, who may be regarded as the public representative of the Committee; for although his name does not appear upon the general committee, so far as I am aware, from the nature of his observations it is evident that he is closely connected with the Fund, more especially as you refer to him as the gentleman who has supplied you with the official documents from which you compiled your abstract; I shall, therefore, take Mr. Taylor's statements as accurate, and shall assume your abstract fairly to represent the documents in your possession, and shall endeavour to point out the particulars in which the Committee have not given satisfaction to the subscribers in this district, at least.

The proposition of the committee is that of the 83,000*l.* subscribed, about one-fourth shall be distributed to the twelve inspection districts, and the remainder shall be retained for the Hartley people. Now, the justness of this arrangement is very generally questioned. Either the whole amount should have been divided amongst the survivors at Hartley, or the fund should have been appropriated so as to have conferred equal benefit upon the survivors of colliery accidents generally in whatever part of the kingdom they may occur. If Mr. Henry Taylor and the committee argue that the money subscribed does not of right belong to the Hartley widows and orphans, what argument can be adduced to justify the provision for them for life, and the withdrawal by this means of all but an insignificant trifle from the general body of working colliers? I am myself surprised that the workmen's delegates—the men who so ably represented the working men when the Coal Inspection Bill was before Parliament—do not move in the matter; they would assuredly find plenty of influential persons both in and out of the House of Commons to assist them. I will put it to Mr. Henry Taylor, as a man of business, thus—If the Hartley colliers are entitled to 15s. in 1*l.* of the subscriptions, why are they disentitled to 20s. in 1*l.*; and, if the Fund is for the working colliers of the whole kingdom, is not 15s. in 1*l.* too much to apply to a single accident? There has been from the very time that it was found that the subscriptions came in abundantly too much evidence given by the Committee that it was desired to apply the Fund for the benefit of the Northumberland, Durham, and Cumberland district almost exclusively, and it was even directly stated at first that the amount which might remain as surplus would be so applied, and it is only in consequence of the communications which have been published through the *Mining Journal* that this course was averted. I believe that, if the subscribers be not very apathetic, it will be found that at least 3000*l.* can be appropriated as the nucleus of the Relief Fund in each district. Mr. Henry Taylor has already brought forward two important items—the 1395*l.* 18s. 4d., the half-year's interest due when the report was confirmed, though not when it was made. This cannot be included in Mr. Birkmyre's estimate, and the 1200*l.* lying at the Sunderland Bank; these two items make together 2595*l.* 18s. 4d., so that already there are available funds, after providing for Mr. Birkmyre's very high valuation, to give nearly 2000*l.* to each district, instead of 1700*l.* only; and, if the matter be thoroughly investigated, it will be found that even this larger amount may be increased by at least 50 per cent., and still leave ample provision for the Hartley widows and orphans.

I enclose my card, but desire only to be known in print as—

*London, May* 11. FACTS AND FIGURES.

## THE HARTLEY RELIEF FUND.

SIR,—Mr. Henry Taylor, in his letter of April 20 (see *Mining Journal* of the Saturday following) asks whether 1700*l.* now distributed is not better than a larger amount some years hence, and states that "*if the Fund retained prove too large for the Hartley widows, the various districts will ultimately receive the balance,*" yet, in the Journal of Saturday last, you report that at the meeting of the Northumberland and Durham Permanent Relief Fund Mr. Henry Taylor stated that it was proposed that 1200*l.*, contributed to the Hartley Fund, and lying in the bank at Sunderland, should be handed over to the local fund. May I ask whether the Committee and Mr. Henry Taylor intend to sanction this? It is on record that the Hartley Committee has ere this written to the gentlemen composing committees in various parts of the kingdom, demanding that the amount in their hands be sent to the chief committee at Newcastle, so that it would be rather stultifying themselves if they take a different course with regard to Sunderland, because it happens to be the Northumberland and Durham Fund that is to receive the benefit.

By the arrangement which Mr. Taylor referred to at the meeting reported, the Northumberland District Fund would receive 2900*l.*, and the other district funds only 1700*l.*, which would be very unsatisfactory to the subscribers.

I enclose my name, and am a subscriber to the Fund, as you are probably aware, but prefer to write anonymously, because I consider a charity fund to be a fund which should be administered so as to give general satisfaction to the subscribers; a fund from which subscribers cannot claim dividends in case of there being a surplus after accomplishing the objects sought; and a fund from which the executive should be given no opportunity of remitting the proposed dividends to those who are troublesome because desirous that the administration should be just. —— CHARITY.

## THE BOTALLACK MINE ACCIDENT.

SIR,—The skip accident at the Botallack Mine has awakened the sympathy of the benevolent, and the families which have been deprived of those upon whom they were dependent will, no doubt, be well provided for; and I am sure there can be few who do not desire to see the appeal of the Relief Committee responded to; but, as the writer in a local journal remarks, "it is time that the whole subject of such funds should be carefully considered. Spontaneous and ample generosity on the occurrence of great calamities is gratifying and commendable. Systematic management in apportioning benevolence is needed to ensure either fairness of distribution, or that the fullest possible benefit may be derived from the amount raised. At present there is no such comprehensive scheme of relief. A sailor lost in the *Orpheus*, or a miner smashed with a dozen of his fellows at Penzance, may depend upon the wants of his widow and orphans being amply relieved. Other men, equally brave and deserving, who have the additional misfortune to meet their deaths by ones or twos, have no such special assistance given to their helpless dependants. Why should this distinction exist? Why should five times the necessary sum be contributed for the sufferers by the great Hartley Colliery disaster, while the poor creatures who had their support cut off by a petty accident adjacent are not entitled to participate therein? Why should the four poor widows of Botallack have enough freely provided for them, and the widows made by the falls and explosions which are constantly occurring be not assisted in the same way to an equal extent? The subject is one demanding ventilation. Some grand aggregate benevolent fund, that should embrace the whole country, or smaller funds for particular localities, might be devised, which should take cognizance of all accidental deaths, and provide for necessitous survivors. There would be difficulties and disadvantages in the way of such a scheme; but it would at least end the partiality shown by an impulsive and sensation-loving public in favour of the man killed among a multitude."

Observations of this nature are of far more importance than they are generally considered to be, for it is really a question whether the habit of the benevolent public of subscribing in case of every extensive accident does not engender carelessness. It should be well understood that in case of accident the survivors will be relieved in proportion to the amount of provision which the man killed had made for them during his lifetime.

D. R. C.

## AGENTS' REPORTS.

SIR,—One would naturally have concluded that the numerous evils (some of which fall on the agents themselves) resulting from the common practice of *colouring* reports on mines would by this time have led to a complete "reformation of manners." We all know, and it has been often said, that of all men miners are the most sanguine in their temperament; that they are too hopeful generally as to the schemes which they introduce to mining speculators. But many of them go beyond their hopes in the statements which they make in support of those schemes, to gratify their own selfish principle, or to satisfy interested persons with whom they are connected. To push off a mine, or shares in a mine, either their own or their employer's, some of the agents, and other reporters, do not merely colour, as we say, the facts, but also state wilful untruths. Such statements may, and sometimes do, accomplish the objects contemplated: a good-for-nothing mine, or shares in it, may perchance be so disposed of, but with what result? Loss of character to the selfish or time-serving agent, and perhaps, too, loss of his place. I have known many such cases.

Many mine agents when required to estimate the prospective returns for a month or a quarter over-estimate them, for the encouragement of the company, or for some other purpose; but when the proof comes—when the sales speak the result—censure, and perhaps disgust, express the mortified feelings of the expectant adventurers. I knew an agent in a tin mine who used to send in a report to a London secretary of expected returns of 8, 9, or 10 tons per month, but in every case he was several tons deficient at the smelting-house. He was borne with for several months, and then discharged, as either an incompetent agent or a wilful deceiver. Such examples ought to put a check upon this too common practice, and bring agents to more correct habits. It is much safer to err on the other side—that is to say, to under-estimate expected returns; for in this case credit would be given to the agent for judgment and industry, which in the other case is rightly withheld. What is very much wanted in some mine agents is a love of truth. I have known an agent of this class (a lover of truth) dismissed for speaking freely his opinion, because that opinion, given to the company, conflicted with the interest of one in authority, who was also the owner of the dues; but the agent's opinion was justified by the subsequent experience of the company concerned. The agent said, "I cannot recommend any further outlay of money in this mine. I think a fair trial has been given it, and I have no hope that the work will become remunerative. I advise you to stop." This agent was then receiving 200*l.* a year from this mine, but because the stopping would also stop the dues the agent was dismissed, and another appointed, who expended a further capital of 10,000*l.*, and then stopped! I may state that that agent was the late Captain Wm. Brenton, previously of East Crinnis, a man distinguished for strict integrity; as were also his two brothers, Capts. Henry and Richard Brenton. Cases, however, of this kind are very rare indeed; but cases of dismissal for falsehood and incapacity are more common. I know an agent who formerly received a salary for devoting his time exclusively to a mine-broking firm in London, for reporting on mines. It has been alleged that his discharge was occasioned by his habit of non-comformity to truth, or, more plainly speaking, writing lies.

Agents will, I dare say, pardon me, their well-wisher, if I take the liberty of offering them a few words of advice, viz.:—

1. If a shareholder, or broker, desire you to "puff," or "cry down," a mine, to suit their iniquitous designs, respectfully decline to serve them therein.

2. Whenever required to report the state of a mine be careful to give the facts only, and avoid all hyperboles respecting the number, size, and character of metallic veins, &c.

3. If required to estimate prospective returns, be careful to keep within the limits of your ability to supply.

3. If a merchant send you a check as a present—a bribe to secure supplies of materials from his stores—return it, with thanks. R. SYMONS.

*Truro, May* 12.

## GOLD MINING AND MINERS IN WALES.

SIR,—Circumstances to which I shall presently refer have compelled me to abandon the pacific intentions I professed in my letter of April 20 (line 55). If your readers will refer to the Journal dated February 28 they will find a letter written by Mr. Mosheimer, dated February 26, in which he recommends me to abandon the stamps, and distinctly states that, although he was going to erect many reduction-works in the Dolgelly district, he would erect no more stamps. Your readers will remember that in my letter of March 30 I mentioned that Mr. Mosheimer had been compelled to give up the dry stamping, and adopt (somewhat clumsily) the process I recommended. I understand that he has erected since that date at Garthgeit a set of stamps, and managed the erection so cleverly that they will not work; and I must confess I was not a little astonished when I saw in the Journal an advertisement for *some stamps which he has patented*, and which, to judge from the drawing, have every appearance of being as much gimcracks as his pans, which, besides doing a miserably small amount of duty per diem, are always breaking or otherwise getting out of order, perhaps to conveniently afford an excuse for the non-extraction of the gold in sufficient quantities. The gearing of the pans is defective, and they are geared for all sorts of speed, showing pretty plainly that they are not geared by a man thoroughly "up to" or acquainted with his business: his unsettled "manœuvres" with the stamps tend pretty well to elicit the same remark; and yet this is the man to whom the destinies of the gold district of Merionethshire are confided; this is the skilful reduction officer employed by five or six gold mining companies, and by means of whom the county may perhaps be left in the same position as Berdan left it. What are the directors thinking of? are the shareholders also asleep? If so, it is time for them to arouse themselves, if they wish to consult their own interests. Let them refer to my letters, and particularly to that of April 8 (in the Journal of the 11th), and to the remarks made by Captain Faull, an old and experienced miner, in his last reports (published in the Mining Correspondence). The introduction of this person to the county has further led to the dismissal of Captain J. Parry, who may fairly be termed the father of profitable gold extraction in Wales, who has returned to the company upwards of 27,000*l.* profit from about 1300 tons of ore, which yielded (in round numbers) 31,000*l.* worth of gold; and because this Americanised German or Austrian did not agree with him, in return for Parry's long and profitable services, he is summarily dismissed, with only two or three days' notice, to make way for this intruder.

I have now to tell your readers an interesting anecdote respecting Mr. Mosheimer, and shall commence by requesting your readers to reconsider the first paragraph of Mr. Mosheimer's second letter, in the Journal of March 28, in which he so bitterly complains of the ungentlemanly treatment he was having at the hands of Mr. E. Hopkins, and of being run down by him; and then I have no doubt but that many of your readers, and especially my friends and acquaintance, will open their eyes when I mention that Mr. Mosheimer, finding himself thoroughly worsted and dead beat in the little paper war with me, resolved upon the grand idea of running *me* down "with a vengeance." My last letter had heated his ire to such an extent that he *boiled over*, and accused ME, who have purchased silver ores for the Messrs. Taylor and the Constante Works for nearly 5½ years in Spain, without even having a check assay made against me to test my accuracy or my honour; ME who have had the unweighed riches of gold of the St. John del Rey Mining Company in my undisturbed possession and control for four years—who have been assayer to the Chilian Government of Atacama, and public assayer for more than five years, during which time I was entrusted with the melting of over half a million dollars worth of silver, which was delivered to me to refine and melt into ingots, in my own house, being totally irresponsible for any amount of loss in the operation, and none of the owners or their agents being present to witness the melting. I repeat, this man actually has had the insolence to accuse *me* of attempting to steal a hundredweight of waste, or tailings, which it appears he has purchased from the owners of the Vigra and Clogau Mine. I was on horseback, and he must have thought I had large pockets, as I had not even a piece of paper with me, and merely went up to see the stamps he has made such a bungle of. It is hard indeed, Sir, and cruel, to attempt to blemish the unstained reputation, hardly-earned and preserved through many temptations, of a man who almost feels proud to say he is still a poor man, that without being extravagant none of the gold or silver has stuck to his fingers, by the mean, paltry, revengeful, and ridiculous accusation of attempting to steal a *cwt.* of tailings, which did not contain in gold the value of 1s., and which would have cost more than 5s. to extract it from so small a quantity; thus dragging *my* name through the mire, and affronting me publicly by exposing me to shame before a multitude of persons, assembled expressly to hear the case tried before the magistrates in the Police Court at Barmouth, delaying me in Wales, putting me to considerable expense, and preventing me from attending a preconcerted meeting with a party of gentlemen in London. I need hardly add that the magistrates dismissed the summons instantly after his case was stated, and before even one of my witnesses was examined. I can fancy hearing some of your readers say, "This indeed was a dastardly and unmanly revenge for having been beaten in a paper war."

This letter, Mr. Editor, is personal, and of that description which I had intended to forbear from writing; yet as this story will get wind, and be reported in various manners and lights, to my evident prejudice, I must beg of you, for the sake of the vindication of my character, to allow it to be inserted in the Journal for the satisfaction of my friends, and to expose to the shareholders in the Welsh gold mines the character of the individual in whom they put their trust.

I perceive a letter from a man, whose name nor machine I have never heard mentioned or seen, attacking the validity of my patent. I have neither the time nor yet am I in the proper humour to attend to him at present, but shall enquire into and answer it next week; meanwhile observing that it is untrue that his machines are used by the Port Phillip and Colonial Gold Mining Company in Australia. They use the stamps with the "hide and blanket process," and barrel amalgamation, or dry cleaning and melting.

*Spread Eagle Hotel, Gracechurch-street, London, May* 12. WM. REAY, Jun.

## THE SLATE TRADE—WELSH AND CORNISH SLATES.

SIR,—In last week's Journal an article appeared, in which in the interest of the public, and without "partisanship or partiality," the writer graphically describes the relative merits of Welsh slate and that of Cornwall and Devon. I will not allude to any of the schemes which, "with more or less ingenuity or sophistry," may be placed before the public for the purpose of developing the slate resources of those counties—for within the last year I have only seen two such schemes, and neither of them, I must confess, evinced either ingenuity or sophistry. Neither will I express one word of regret at the great and merited success of the Welsh quarries. I write simply to express my surprise at any one who writes without "partisanship or partiality" stating that the slate of the Delabole district (taking it as a type, and fairly representing the oldest and best-known of the West of England slate quarries) is not so suitable as that of Wales for the London market. Now, I hesitate not to affirm that no better slate can be produced than that which is to be obtained in the Delabole district, whether in respect of its weight, colour, or durability, and, above all, of its *non-absorbent qualities*.

Many of your readers may have seen the very beautiful parish church of Camberwell. Let me then ask—is it true, or is it not true, that when that church was built one side of its roof was covered with Welsh slate, and the other with Delabole slate? And, again, is it true that although that church has been rebuilt only about fifteen or sixteen years (if indeed quite so long), the Welsh portion of the roof has been re-laid, whilst the Cornish part remains perfect and sound?

Allusion is also made to a statement, received from undoubted authority, respecting slates from a particular quarry in Wales which may be made red-hot, and then plunged into cold water, without any perceptible alteration of structure or condition. "To subject," you add, "other slates to this test would be at once to reduce them to the condition of broken and shivered glass." I am not aware, I must candidly confess, of the very great superiority of such slate, unless, indeed, when destined for the roof of fire-proof buildings. The roofs of ordinary buildings we desire to make *water*-proof; and I have no hesitation in declaring my conviction that for this ordinary purpose no slate in the world can surpass the slate of the Delabole district. And further, that without any desire to depreciate the slate produce of Wales, I will express as firm a conviction that wherever the slate of that district is introduced its excellence will be acknowledged and appreciated. And, in conclusion, I beg to add that I entertain no doubt whatever of the success of any slate quarry in Cornwall, when properly situated and judiciously managed.—*May* 12. NO PARTISAN.

## THE LEAD MINES OF CARDIGANSHIRE, AND LEGITIMATE MINING.

SIR,—I do not know anything that has done so much to paralyse legitimate mining in Wales as the practice of over-valuing and reporting mines, which Mr. Naysmith so forcibly condemns, and I should feel obliged if you will permit me to enter my protest against the practice. But I go further than Mr. Naysmith, and object to the system of reporting altogether, as prejudicial to the interests of mining in Wales. The men who for the most part report upon our mines ignore all the recognised principles of scientific investigation, and write the veriest trash that mortal ever read. This is not a haphazard assertion, but one which I am prepared to prove by numberless extracts from the printed reports of mine agents.

In the first place, the mine agents to whom I particularly refer know nothing whatever of the position, the strike, the dip, the age, or the mineral constituents of the rocks in this country; and what is worse, they put aside this knowledge as of no use to them. It was only the other day I felt it my duty to expose the plans of some mineral ground in Cardiganshire, in which the agent, wishful to make the most of the lodes, stretched a group of pink zones across the country, to represent the mineral-bearing rocks, taking care that the widest should cover the sett he was concerned in. These zones were a pure fiction, and it never entered into the mind of the unobservent agent that he had placed them at nearly right angles to the strike of the rocks, so that they embraced not only the metal-bearing strata but the rocks in which the lodes are notoriously unproductive. I will not say that this was done designedly, but it was certainly laughed at by those who understood the geological formations of the country. I may observe, in passing, that the great scheme which was to rival the most productive British mine, and to which the plan referred, has prematurely perished. It would be easy to multiply instances of this sort.

Then, again, these agents describe lodes and mineral ground in a most indistinct and slovenly manner, and refer, in favour of the conclusions at which they arrive, to empirical notions long ago exploded. Sometimes I find such words as these—"The lode is large, composed of gossan and a kindly spar, and overlies an immense body of mineral, probably lead." Or these—"The master lode in this sett is a continuation of the great lode now worked at G—— (a neighbouring profitable mine), and which has put many thousands into the pockets of the company; nothing can look better than the lode at the outcrop, and I am certain that by sinking a few fathoms the fortunate holders of shares in this concern will meet lead enough to bring them a handsome dividend;" or these: "This is a magnificent lode, with all the elements an enterprising miner likes to see; there are crystals of copper in the spar, which looks well, and is discoloured with some metal indicative of a rich mine." Such is the vague and unsatisfactory manner in which lodes are mostly described in the mining reports of this district; and I ask any man of science, or an intelligent man of business, if this should be tolerated? What is there here upon which a person at a distance from the mine can form any reasonable conception of the condition and prospects of the lode? Of course, he has nothing else to do but to rely exclusively upon the opinion expressed by the agent, and that is always strongly worded. But such an opinion is really not worth having, because it is based upon imperfect knowledge—miserably imperfect knowledge. I contend that the whole system of reporting upon mines is vicious in the extreme, and must deter men of education, and the landowners, and the more intelligent tradesmen, from investing in any undertaking recommended by such reports.

Mr. Naysmith suggests as a remedial measure the establishment of a society, to meet

at Aberystwith, for the purpose of a strict surveillance, to prevent, so far as can be done, over-valuing and reporting mines. I dare say such a society would be attended with beneficial effects, but I fear it will hardly meet the evil, and something more should be attempted. I would advise that only men of the highest character and scientific attainments should be sent to report on mines, and that under no circumstances whatever should mineral proprietors, or the promoters of any scheme, accept vague and indefinite reports. They should insist upon a detailed statement, in which every fact bearing upon the lode should be set forth and described in scientific phraseology, with the conclusions fairly deducible therefrom. For my own part, and I ask others to do the same, I have resolved for the future to analyse the mine agents' reports on mineral property in this district, and to send you the result. I have nothing else to do under the circumstances, and I am influenced solely by a desire to protect the public and promote legitimate mining in Wales.—*Carmarthen, May* 12. C. T.

## MINING IN WALES—MANAGEMENT.

SIR,—Having noticed in last week's Journal some remarks regarding a mine in this locality, called Caergwernog, concerning the successful results of analyses of the quartz, and also advice from Mr. Mosheimer regarding the erection of machinery on the mine, which would be capable of crushing and working 30 tons per day, allow me to remark that such profits on paper seem all right, but to see the same doing its daily performance would be satisfaction indeed. The same gentleman is erecting such machinery as he recommends, so I, as a friend, would advise the Caergwernog adventurers to patiently await the result of that now in construction, before they venture to launch out 3000*l.* for machinery, of which I, a practical miner of the locality, have doubts of the successful results.

On Saturday last the management of the Clogau Mine changed hands, owing to the resignation of Capt. John Parry, who has discharged his duties with unerring fortitude for the last sixteen years, and who was the first man who wrought a gold mine in Britain so as to return profits to the adventurer. There must be something curious behind the shade, else such a persevering man would not have resigned just when he was beginning to reap the benefit of his labours; on the other hand, if he is obliged to resign at the request of the company, every true Briton will say it was unfair on the part of the company to do so with a man who has opened the eyes of the mining public, and been the means of starting mines on every side in the neighbourhood of the Clogau—they are so numerous I can compare them to nothing but a heap of mushrooms in a green field, which spring up in no time. I hope they will be as prosperous as the Clogau up to the present. The future prospects of the mine greatly depend on its management: it is now under the superintendence of Mr. Mosheimer, so we must patiently await the results, as he has the real Welsh gold quartz to work upon. A PRACTICAL MINER.

*Pont Dhu, May* 11.

[ADVERTISEMENT.]

## EAST CAMBRIAN GOLD MINING COMPANY.

SIR,—By order of the Board of Directors, I send you the following extract from the minutes of a meeting held by them on Monday last. Resolved,—

"That the directors see with regret the unauthorised letter of Mr. S. Taylor in the *Mining Journal*."

"That the resignation of Mr. S. Taylor be accepted."

Any comment on his advertised letter is totally superfluous, his conduct having been so strongly disapproved of by the Board, and I will only remark how surprised I am that any gentleman should so far allow his feelings to be irritated by a misunderstanding with one of the directors as to endeavour to damage other people's property in the way that Mr. Taylor has attempted to do. A. PULBROOK.

11, *Waterloo-place, Pall Mall.*

## ANALYTIC UNIVERSAL TELEGRAPHY.

SIR,—I have just read in the Journal a notice relating to a pamphlet on an analytic universal code of signals recently issued by myself. I thank you for the notice, and beg to offer your readers a word of explanation of my scheme. The pamphlet is nothing but the explanation of a table of signals, and could neither be understood nor used without the tables themselves. The tables, covering a space of less than a square foot, present to the eye the most useful words in signalling, accompanied by their signals. Whatever be the language in which the tables are printed, the corresponding words are found in the same place and under the same signals. No knowledge of grammar is required to use the same, and not the slightest notion of any foreign grammar or language is wanted. A signal of two flags is used to mean that an action is already done, another signal that the same is taking place, another that it will take place. The signals are the same for all verbs, and go with all languages, and any sailor able to make the difference between what has been and what will be done is possessed of a complete knowledge of the most difficult part of my system. D'ESCAYRAC DE LAUTURE.

## WILLIAM JAMES, THE ACKNOWLEDGED "FATHER OF RAILWAYS."

SIR,—William James is indeed the acknowledged father of our noble Railway System, acknowledged by this valuable Journal, acknowledged by many other magazines, &c., and, above all, acknowledged by the late Robert Stephenson, Joseph Locke, Col. George Landmann, I. K. Brunell, George Rennie, Chas. Vignoles, J. E. Errington, J. J. Jones, Sir John Macneill, John Silvester, Joseph Woods, J. F. Starback, J. C. Robertson, and other distinguished C.E.'s; these gentlemen having signed the following document to that effect:—"In consideration of W. James's public services as the original projector and surveyor of the Manchester and Liverpool Railroad, and many other of the most important railroads in the kingdom, and principally at his own cost, we being of opinion that the great benefits conferred upon this country in particular and the world at large, by his successful exertions and great pecuniary sacrifices, the public are indebted for the establishment of the present railroad system."—See "The two James's and the two Stephenson's," p. 106. And yet I have noticed in Mr. W. Bridges Adam's modern work, entitled "Roads and Rails," the following passage:—"We are apt," observes the author, "to regard the modern railways as an invention by one individual mind. It is almost heresy to doubt it; but nothing is more certain than that the railway as we at present possess it is a compound of successive contrivances by many individual men." However many and valuable improvements the railways may have gradually acquired in their progress, railways must have had a beginning; railways must have had a "Father"—a first great agitator of the cause. Then, is it not just and right to trace back to this "Father of Railways"—not of tramroads; the man who first had the idea of "converting the tramroad into a railway for the conveyance of passengers." This is proved by a pamphlet written by the late William James in 1823, on the subject of railroads and passenger traffic. It is proved that Grey was not the father, "for," observes the "Mechanics' Magazine," "he advocated the cause with his pen merely. Trevethick was not the father; he was in South America during the commencement. Edward Pease was not the father, by his own words, although he was an immense local benefactor. Sandars was not the father in 1821, for William James had projected and surveyed, at his own expense, "the first railway ever surveyed in the world" in 1820. Copies of this plan have been recently in the market. And certainly George Stephenson was not the father. Stephenson never invented an engine. He did not even invent the steam-blast; this was achieved by Blackett's workmen.—See "Smiles." Stephenson did not invent "smooth wheels upon smooth rails." This is admitted to be due to the Wylam engineers—so states Mr. W. B. Adams. Stephenson did not invent the first locomotive tubular boiler, or form the first railway company, or write up and advocate this great beneficial innovation to peers, lords, government, or the public.—See "The Life of George Stephenson," large edition, and "The two James's and two Stephenson's." Then, may we not enquire what Stephenson really did accomplish to be proclaimed throughout the world the "Father of Railways?"

We could not help reflecting last 10th of March, the day of general festivities and rejoicing, railway carriages disgorging their multitudes, and the royal train swimming smoothly along with its precious burden of beauty and royalty, what a tearing open of old wounds the family of the late William James must have experienced, if they witnessed how little was thought of the sacrifice of their father's health, wealth, and life, and the losses they had themselves sustained by his originating a system so fraught with benefit "to every member of the human family." We can scarcely recognise our own country that it should allow so just a claim to remain so long unrewarded. To resolve things into their first principles is the noblest employment of the mind, and which alone confers a title to real wisdom, for we are possessed of a variety of faculties and numerous objects on which to exercise them; but we have men in these days, to save the trouble and fatigue of examining for themselves, who submit to be tutored even by others who are themselves personally ignorant of facts. And we have other men who presume to dictate to their fellow man, and insist upon his believing all they think proper to assert. But all real lovers of truth and humanity have resisted their usurped authority, and disdained to be taught except by conclusive evidence. And have we no one in this age of science, with sufficient time and energy, who will devote themselves to obliterate false impressions, or shall we allow the railway history to be so terribly distorted and never satisfactorily arranged, and only for the purpose of exalting a rich man, for it is evident that Stephenson, like Hudson, was principally honoured for his wealth and position? And can the friends of the late William James cowardly abandon his cause, and shrink from the duty they owe his memory, by permitting the name of Stephenson to usurp the title so justly merited by him? The engineering profession must be easily acquired if a "Collier Boy," without education, could achieve all that is imputed to him, and remain the pattern engineer for the rising civil engineers from generation to generation. Well may he be distinguished by the title of the "Mythical Napoleon of Engineering Science." And will our impartial English press permit this subject to rest in this unsatisfactory state? I grieve to acknowledge that we have journals that favour the rich and powerful, and fill their columns to overflowing for Fortune's favourites; but we are truly blest in possessing others more just and liberal. C. E.

ENGLISH AND FOREIGN LOCOMOTIVES.—At the Institution of Mechanical Engineers, Birmingham, Mr. D. K. Clark read a paper "On the Locomotive Engines in the International Exhibition of 1862." Twenty locomotives altogether were exhibited, of which eleven were English and nine foreign; and fourteen had outside cylinders and six inside cylinders. Most of the engines were specially constructed for burning coal, a feature which has been introduced entirely since the former Exhibition of 1851, on account of the smaller cost of coal for fuel compared with coke. The English engines were mainly examples of the standard classes in general use on the principal English railways; of the eleven exhibited, seven had outside cylinders and four had inside cylinders. The foreign locomotives show greater variety, boldness, and originality of design, and were mainly constructed for lines with very heavy gradients and sharp curves, which are generally associated together on railways in mountainous districts, causing special mechanical difficulties not applying to the cases of the English railways. The most satisfactory of the plans for surmounting these difficulties is considered by the writer to be that of an articulated or bogie engine, having a single long boiler of large dimensions, mounted on two separate carriages, with a swivelling connection, each having its own separate pair of cylinders, working six coupled wheels placed near together; so that the engine, although of great total length, could readily pass round very sharp curves, whilst the whole of the weight is made available for driving adhesion. The other principal engine of this class, the "Stelerdorf" in the Austrian department, was a tank engine of very large dimensions, carried on ten wheels, the six leading wheels being coupled together as usual; and the additional adhesion on the rails is obtained by coupling together the four trailing wheels also, which are driven from the leading wheels through an intermediate shaft, with spherical bearings from all the coupling-rods, so connected as to allow of the two sets of wheels assuming any angle to each other in running round sharp curves, the engine frame having an intermediate swivel joint for this purpose. A marked feature of the foreign engines is the position of the valve gear outside the cylinders; but this is considered objectionable in respect of good working and durability. In the large foreign engines also, as well as in some of the English, the boiler tubes have been crowded too close together, with the object of obtaining larger extent of surface, from a mistaken idea that heating surface is mechanically the equivalent of evaporative power, without regard to the equally important consideration of the circulation of the water amongst the tubes; in the extreme instance of 356 tubes, fixed with only 7-16ths inch clear space between them, a large proportion of the tube surface must be practically inoperative for raising steam. Another marked difference between the engines exhibited in 1851 and those shown at this Exhibition is that in the latter Giffard's injectors have been extensively employed as a substitute for the feed pumps universally used at the former period.

## MINING IN IRELAND—No. V.

[FROM OUR CORRESPONDENT IN THE COUNTY OF CORK.]

Mount Gabriel Mine, which is situate about three miles to the north of Schull Bay Mine, and intersected by the same great cross-course, has recently been inspected by two mining agents, well qualified to form a correct opinion as to its capabilities and value as a mining adventure; I, therefore, submit the following remarks, which are gleaned from their report:—"Four large east and west lodes have been partially laid open by shallow levels, and the greatest perpendicular depth attained from surface does not exceed 10 fms.; from the north to the south lode is about 40 fms. The ore at this shallow depth consists principally of the green carbonate of copper, with exceedingly rich specimens of silver-grey ore. These four parallel lodes converge going west, and at or about the great cross-course they are likely to form one great lode. About 50 fms. south of the south (Hall's) lode there is a lode containing sulphate of barytes, quartz, iron, &c. This lode also converges going west towards the copper lodes, and, from the surface indications, is likely at a deeper level to produce copper or lead ore. The ore from the lodes already opened, without any dressing, but crushed dry, produces about 6 per cent. of copper, and about 500*l.* worth has been raised and sold. The plan suggested for the proper and economical working of this mine is to drive a deep adit cross-cut from the valley below the present workings, to make a dressing-floor near the entrance of the deep adit, lay down a tramway in the adit level, and erect a crusher, to be worked by a water-wheel, for crushing the ore. The proposed adit level would intersect all the copper lodes 30 fms. deep, and the barytes lode 50 fms. deep; a thorough drainage of water being thus effected, the different lodes could be cheaply explored east, and also west, towards the great cross-course; and as the lodes, so far as they have been partially opened (10 fms. from surface), present unmistakeable evidence of productiveness, there is reasonable ground to expect that they may be profitably worked for many years by the proposed deep adit level. The estimated capital to carry out the operations in this mine, and lay it open in a proper and miner-like manner, is 6000*l.*"

There is a small steam-engine, which was erected on the mine some time ago, for working a stamps, stamping carbonate of copper and grey ore; however, it did not answer. There are offices and other useful buildings erected; and the cost of carriage from the mine to the pier at Schull would be about 2*s.* per ton. Taking into consideration the fact that the mines in the immediate vicinity of Mount Gabriel, which are being worked in depth, are all vastly improving the deeper they are worked, it is really puzzling to think that a mine less promising than Mount Gabriel should go begging for the necessary capital to work it; but so it is, and it is useless to deny the fact that it is almost impossible to induce capitalists to invest money to work the mines, which are safe, *bona fide* speculations.

Glenaulin Mine, which is situated on the south shore of Bantry Bay, and to the east of Gurtavallig and Killeen Mines, I understand, is about to be re-opened. This mine sett is very extensive, and extends across the Kilcrohane Mountain, which rises to a height of 1000 ft. above the sea level, from Bantry Bay to within a short distance of Dunmanus Bay. Numerous lodes crop out in the side of the mountain, and in Glenaulin Cove there are several large lodes to be seen in the cliffs, presenting strong mineral indications. Two of these lodes were intersected some ten or twelve years ago by an adit level, and several tons of rich ore raised and sold. The east and west lodes are intersected in the Cove by a large caunter lode, which forms a glen, running obliquely into the Kilcrohane Mountains, and contains large quantities of quartz, carbonate of lime, mundic, and yellow copper ore. A level driven from the base of the mountain on the great caunter lode would intersect all the east and west lodes, some of which are from 10 to 12 ft. wide, and of a very promising character. One of the east and west lodes, a little to the south of Glenaulin Cove, consists of a large deposit of irony gossan, in which is found a considerable quantity of granulated mundic. In this golden age, the irony gossan I have mentioned may possibly correspond with the jacotinga of ther Brazils; at any rate, it appears to be the back of a strong lode, and, if the irony gossan is of any value, there it is in great abundance. On the back of another of these east and west lodes, near the Cove, I have seen pure native copper disseminated through the peat turf in beautiful fibres. This lode in a few fathoms driving would be intersected in contact with the great caunter. About two miles east of Glenaulin Cove a vein of excellent roofing slate is being worked. This, and other slate quarries on the south shore of Bantry Bay, and also on the north shore of Dunmanus Bay, is coloured on the geological map as *carboniferous slate!*

## MINING NOTABILIA.

[EXTRACTS FROM OUR CORRESPONDENCE.]

NEW CROW HILL.—The steam-whim went to work to-day, and worked satisfactorily. The vessel with the rail iron unloaded to-day at Charlestown, and the 55 is now ready for laying it down. It will be begun on Monday, and I hope finished on Wednesday, and we shall not wheel in that level again. The surface water is as low as in the dryest summer, and, with the additional hands put on to-day, we shall require all the water that we can get to drive our stamps. We have sampled about 1 ton of No. 1 lead, and about 4 tons of No. 2. The adit level at Wheal Louisa is cleared 6 fms. 2 feet, and now under the east adit shaft. We are told that a little to the east of this shaft a sink is gone down under the level, where the lead was broken that the former workers sold: this we shall soon prove.

NORTH NANT-Y-MWYN.—A box of specimens from the present workings upon this mine have just arrived; the lode is evidently composed of carbonate of lime, richly impregnated with lead. The shareholders should avail themselves of the opportunity of viewing these specimens, which may be seen at the office.

AT VIGRA AND CLOGAU GOLD MINE some rich ore has been met with in the upper adit; 1½ ton of ore, taken therefrom, is estimated to be worth from 1500*l.* to 2000*l.* Further particulars with reference to this discovery are awaited with interest.

ROARING WATER.—We are glad to hear, from the best authenticated sources, that this mine holds out unusual prospects of early success. The valuable discoveries recently made are quite sufficient to stamp the character of a great and lasting mine; development is only required to make it such, and this can be done at a cheap and expeditious rate.

WHEAL CREBOR.—The market has been exceedingly active during the week, and shares close firm at 3⅛ to 3¼, with a strong upward tendency. Several reports of a satisfactory character have been received, and it is confidently anticipated that the present explorations have but just reached the top of an immense deposit of copper ore. This is the only mine that has maintained its price during the week.

EAST CLOGAU (GOLD).—It may be interesting to the majority of our readers, who prefer facts to fiction, to have a little statistical detail of what is going on upon this mine. It was mentioned in last week's Journal that the directors were confining their attention to the underground working, and as it is the opinion of all practical miners that only at depth any profitable result can be obtained, and we quote Mr. Mosheimer in particular, in a report given last week upon the Caergwernog setts—"That in California they have more confidence in lodes proving rich at the bottom, when the surface quartz is poor, than when plenty of visible gold is to be seen." He also states that 200 feet must be driven or sunk before hopes may be entertained that a paying mine will ensue. This proves that what is doing at East Clogau is really the only step that can be taken at present. The following is an account of the progress made upon the various levels:—St. David's lode, No. 1, 48 fathoms 2 feet; ditto, No. 2, 57 fathoms 1 foot; St. James's lode, No. 2, 42 fathoms; ditto, No. 3, 14 fathoms; St. John's lode, 16 fathoms—making in the aggregate upwards of 177 fathoms. It may have come under the notice of our readers, and more particularly the shareholders, that the workings upon the St. David's lodes and one of the St. James's lodes have not been reported upon lately; but it must not be considered that these lodes are entirely abandoned. The directors have had their attention drawn more particularly to the St. John's and St. James's No. 2 lodes, in consequence of their highly promising character, and when these are more fully developed, the men will be set to work again upon the lodes mentioned.

ST. DAVID'S (GOLD).—The improved appearance in this mine must satisfy the shareholders that the appointment of Capt. Faull by the directors was an important step. His weekly reports convey intelligence of a cheering character; and from what we hear, the directors have concluded a purchase of the right to search the River Mawddach for the alluvium deposit that lies there, which has been accumulating for centuries.

CROWAN CONSOLS.—Four months since I commenced operations in these mines, and have lost no opportunity of ascertaining the true position of the property, which I now find is even more valuable than was at first supposed. We have a great deal more ground standing in the old Wheal Strawberry than has been stated in former reports. I find that from the engine-shaft, both east and west, we have a great deal of whole ground standing below the 40 fm. level, and a few fathoms further west than this shaft there is whole ground for 300 fms. in length. There can be no doubt that, from the 20 downwards, this will be one of the most profitable mines ever opened in Cornwall, and upon the outlay of 4500*l.* will cover every expenditure, as I have heretofore hinted, to bring the mine into a good dividend state of working. We have selected the best materials for development. The ground is very cheap for excavating at the engine-shaft, which has been sunk below the adit level, and can be sunk for less than 10*l.* per fm. It is intended to sink to the 20 below adit, and then cross-cut to the five lodes intersecting the sett within 30 fms. of the shaft at surface, all coming nearer the shaft in depth. We had an interview with the former steward of Mr. St. Aubyn, who stated that the former adventurers paid fully 17,000*l.* in dues from these mines. Capt. Wm. Semmens, the old agent of the mines, also says that we have a good and lasting mine. We are glad to look across the valley to see operations commencing in Old Wheal Curtis, which is a good speculation, and on the same lodes. It is not a little surprising to me and others that so much ground is left unexplored in this parish, there being now standing thousands of fathoms of unexplored ground between Old Godolphin, the Old Crenver, and Wheal Abraham, traversed by a large number of mineral-bearing lodes. Notwithstanding the remarks of Mr. Symons, of Truro, it is believed that the old mines will handsomely pay for re-working, there being side lodes as rich as those already worked, and the old lodes are very rich for tin. I have been told that as much as 40,000*l.* worth of tin has been returned from the old burrows since the mine stopped, and that they made 200*l.* profit the very last month the mine was worked. The reputation of these mines for richness needs no comment from my pen.—JOHN SEYMOUR.

NANT-Y-IAGO MINE.—The following report from Capt. J. Roach was read at the meeting of proprietors yesterday:—"The 20 fm. level has been extended 11 fms. east and 15 fms. west of engine-shaft; for the greater part of this drivage the lode will produce 1 ton of lead ore per fathom, also blende, varying from 8 to 30 cwts. per fathom; the remainder of the ground driven through has fluctuated in produce, as per weekly reports. The present forebreast west is yielding 10 cwts. of lead and 10 cwts. of blende per fathom. The lode in the eastern end has improved since last reported upon, and is now producing 8 cwts. of lead and 10 cwts. of blende per fathom. The winze under the 10, east of shaft, has been communicated with the 30 fm. level, and the winze west of shaft I expect will be sunk to the 30 this month, therefore we have now about 220 fms. of ground laid open in this level for stoping, which, from all appearances, will yield a great quantity of lead ore and blende. The ore sold, and about 10 tons on the mine, has chiefly been raised from the 30 fm. level and winzes under the 10. We have not seen anything of the cross-course in the 10 west. I think the lode will pass through it uninterrupted by its influence, as it did in the level above. The drawing-machine is now discharging stuff from the 30 fm. level, consequently we shall direct our attention to stoping the back of the 30 fm. level next week. In addition to the ore at surface, we have 50 tons of blende. The work I recommend carrying out in future is to sink the engine-shaft to a 30 fm. level, which will be started in a very good lode of ore, and I have no doubt it will improve as the shaft is deepened. The mine has gradually improved from the adit. To drive the 20 east, also 30 west, each by four men, and stope the back the 30, east and west of shaft. If the present prospects continue, which I have no doubt of, we shall be able to raise 15 tons of lead ore and the same quantity of blende monthly. The machinery is all in good order. We shall require 10 fms. of 8-inch lift to sink the mine deeper, which I think I can get out of some of the mines in Cardiganshire very cheap.—P.S. I think we should do well to let the shaft to sink 10 fms., and as the lode is wet and vughy, I estimate it will cost us 170*l.* or 180*l.* The shaft is 11 feet long by 5 feet wide."

WHEAL ROSE (Scorrier) has recently been drained to the bottom, 70 fms. below adit, and a most promising lode discovered at the engine-shaft, causing some considerable demand for the shares. During the past week the boundary shaft has been cleared, and a fine course of ore discovered, valued at from 40*l.* to 60*l.* per fm.; in fact, one of the finest discoveries made in the West of Cornwall for some time. The shares are in great demand at 30*l.* per share, or 60,000*l.* for the property. This mine adjoins Great North Downs; and, in fact, the boundary shaft referred to being only 20 fathoms from Great North Downs boundary shaft, men being now engaged clearing the same. Capt. Trelease, the manager, reports—"We are clearing River, or boundary, shaft, and are now 9 ft. below the 50, and we hope in a few days to see the bottom. The lode in each end of the shaft is all taken away, and we have every reason to think, from what we can see, that a bunch of ore will be found when we reach the 60. For years it has been reported a fine course of ore was in bottom of River shaft. Great North Downs has all the machinery required for a great mine, having pumping, drawing, and crushing engines." The mine is divided into 5000 shares, on which the present adventurers have paid 2*l.* 10*s.* per share. Capt. Joseph Vivian, one of the best mining authorities in Cornwall, considers Great North Downs one of the best speculations in the county.

WHEAL CREBOR.—Capt. John Andrew, under date May 12, writes that the Crebor lode in the shaft is worth 45*l.* per fathom, and the lode in the 72 east from 1 to 1½ ton, and promising; yet, he is sorry to say, he could not see the bottom of the shaft, as they have 3 fathoms of water in, in consequence of the canal party turning the water on the Thursday previously. They could not get the engine to work before Sunday morning, when they have only a few holes to blast in the east end of the shaft, and will commence to drive east and west immediately. The lode in the shaft, 3 fathoms above the water, is 4 feet wide, 2 feet of the south part solid yellow copper ore, and the north part dredge work; he calls it a splendid looking lode. Judging from the appearance of the lode here, it is likely to continue for some time.

THE WENDRON MINES.—One of the most promising mines in this district had a serious reverse in the past week—TREVENEN AND TREMENHEERE; a heavy run in one of their shafts will for the time retard their deepening the mine at that point, and, perhaps, be the means of temporarily lessening the returns of tin; but I think I can safely say that the accident is not of the very serious character it was at first rumoured. I am very glad of this, and so ought to be every well-wisher to gentlemen who, like the shareholders in Trevenen, have so nobly followed their object to the verge of success. The reports of TREWORLIS MINE, from agents not connected with the mine, are still very good; there appears, however, a growing sort of doubt whether *tin* will not ultimately be the mainstay of the mine; a difference of opinion also exists as to the necessity of erecting a larger pumping engine before another winter. TRUMPET CONSOLS is a mine worthy of attention; the operations on the Wheal Trumpet lode are going on with a spirit that deserves success, of which the agents have no doubt, as soon as the mine has been cleared out and set in order; the machinery erected is first-class. All this outlay is being made without calling on the adventurers for money; the profits on the wokings on Wheal Valis lode being sufficient. The engine-shaft at NEW TREVENEN is being sunk below the 30, and is nearing a point in depth at which the neighbouring mines have been productive. I do not hear of any new discovery in TRUMPET UNITED MINES, but they are steadily sinking, with the same object in view as at New Trevenen—that is depth. The mines in Porkellis Moor—WENDRON CONSOLS, WHEAL BASSET AND GRYLLS, and GARLIONA—are worthy of attention. A start will be immediately made in the working of EAST BASSET AND GRYLLS.—STANNUM.

## TRUTH'S ECHOES, OR SAYINGS AND DOINGS IN MINING.

The Mining Share Market has been unusually heavy during the whole week, and the amount of business transacted appears to have been considerably below the general average. A decline has also taken place in most shares, and frequent fluctuations have attended others. The usual fortnightly account was held on Wednesday.

WHEAL SETON and EAST BASSET have receded very much, and continue heavy, at present minimum quotations.——WEST SETON and COPPER HILL have been quiet, and but little business done.——SOUTH FRANCES, COOK'S KITCHEN, and CLIFFORD have been dealt in with some variation, but the latter are more in request.——STRAY PARK, WEST CHIVERTON, and ILLOGAN are more in demand, and several transactions effected.——TINCROFTS have fluctuated, but left off steadier.——EAST CARN BREA, GREAT SOUTH TOLGUS, EAST GRENVILLE, and WHEAL GRENVILLE have changed hands at lower rates.——NORTH ROSKEAR and ROSKEARNOWTH have receded, and continue dull.——NORTH TRESKERBY and NORTH CROFTY have been sought for at minimum rates.——NORTH DOWNS and ST. DAY UNITED have been done at nominal rates.——HARRIETTS have been offered at lower rates.——EAST ROSEWARNE and KITTY (St. Agnes) continue firm at present prices. The former has been quoted lower, but sellers found scarce.——BASSET AND GRYLLS have slightly improved, and more in request.——WHEAL GRYLLS have been done at lower rates.——GREAT WHEAL FORTUNE have fluctuated, but left off firmer.——WENDRON CONSOLS and SITHNEY CARNMEAL have been offered at lower rates. PROVIDENCE and EAST PROVIDENCE find buyers at fair market prices.——MARGARET and TREWAYNE have been done at market quotations.——MARGERYS have advanced, and in good request at higher rates.——ST. JUST UNITED have shared largely in the transactions of the week, and prices have, consequently, improved.

EAST CARADON have been receding all the week.——GLASGOW CARADON and MARKE VALLEY have slightly improved, and in fair request.——WEST CARADONS have fluctuated, and left off weaker.——LUDCOTT, TRELAWNY, and MARY ANN have each been dealt in, with variations in price.——EAST JANE, LADY BERTHA, and SORTRIDGE have changed hands at nominal figures.——NEW WHEAL MARTHA and CREBOR have been and continue in good demand at advanced rates. Although the latter have been quoted lower they are found scarce at higher rates.——WHEAL EDWARD and HINGSTON DOWN have been in request at improved prices.——DRAKE WALLS are offered at lower figures.

At CHELAKE they have an improvement in the 86 east; the winze in course of sinking is now producing 4 tons per fm.——At WHEAL TONKIN, adjoining Kitt Hill Mine, a party of labourers working a quarry have made a very excellent discovery, in a most promising lode full 3 feet wide, and, from its general character there is not the least doubt of making large quantities of ore.——DRAKE WALLS has improved in several places. The 102, east of Mathew's shaft, is producing good work for tin; the 60, west of Brenton's, is more productive; the branches in the 50 and 40 fm. levels are better; the former is worth 16*l.* and the latter 12*l.* per fm. Other places are without change. The 70 cross-cut north is progressing satisfactorily.——At WEST DRAKE WALLS the lode recently discovered continues large and more promising in opening. They are still shoding for other lodes in that direction.

NEW WHEAL MARTHA: The lode in the 52, west of the engine-shaft, is reported to be from 15 to 16 feet wide; the orey part, or leader, is from 3¼ to 4 feet wide, and is to the south; the remaining portion consists of a vast body of mundic, impregnated with copper ore. The leader is worth full 50*l.* per fathom; the whole lode is estimated to yield 20 tons per fathom. During the two months fourteen men have raised 256 tons, and the ore is of rich quality. The lode has been intersected at the 64, and, so far as seen, will yield from 4 to 5 tons per fathom, and when fully opened on will be found as productive as the level above; the ore in this level has been reached 7 fms. sooner than at the 52. There is no doubt of this becoming a permanent and paying mine.——WEST MARIA AND FORTESCUE CONSOLS: A special meeting was held on Friday, May 8, when the accounts from November, 1862, to March, 1863, were passed, showing a debit balance of 470*l.* 12*s.* 10*d.*; a call of 1*s.* per share was made. The meeting was well attended, and represented by a very large majority of the shareholders, who strongly condemned the proceedings of certain parties who had filed a bill in Chancery for the restoration of certain shares on which calls had been due for several years. The meeting approved of the promptitude of the purser in answering the bill, and authorised him to defend the same, and incur such costs and expenses as may be deemed necessary and expedient. The agent's report of the progress of the surface work is highly satisfactory and encouraging. The Capel Tor lode, intersected about 6 fms. below the 15 fm. level, is 18 feet wide, and has been stoped about 4 fms. in length and 4 feet wide, and found to contain fine work for copper ore, leaving little or no doubt of yielding in depth large quantities of copper. The engine, with all the necessary appliances, is expected to go to work this week, when important discoveries are fully anticipated. A large and powerful engine is also about to be erected on the West Maria shaft. The engine at Fortescue will start to-morrow (Saturday), everything being ready.

LATCHLEY CONSOLS: This mine lies to the south of West Devon, and immediately west of Devon Consols, on the Cornish side of the Tamar, which is the boundary of the two mines. Here they have made a very important discovery east of the cross-course, the lode producing from 4 to 5 tons per fm., and improving as they open out the drivage. The prospects of this immediate neighbourhood are brightening, making the third important discovery to the west of Devon Great Consols, proving without doubt that it has not monopolised all the copper ore of the locality; and, although the lodes west were once lost, are not only found, but opening productively.

WEST DEVON CONSOLS: It is many years since my attention was first directed towards this property, and as often advocated its merits, and even after the several mines in the locality which were re-opened and again abandoned. Still I entertained a strong belief that some great discoveries would ultimately be made west of Devon Consols. The correctness of these views is now being confirmed, for the discovery at West Maria and Fortescue, and at New Wheal Martha further west, with this mine immediately between, through which the lode must pass (there being no turnpikes to evade), and the valuable discovery at Latchley Consols, on a south lode running parallel with the Devon Consols lode in West Devon, in the same channel of ground, and only within a few fathoms of the boundary, are features so strongly in favour of this mine proving productive and rich, that I cannot refrain from again noticing it. With a view to effectually develope the mine, arrangements have been made by the directors to raise further capital, and they are about to issue 10,000 shares at 10*s.* per share, to rank equal with the 10,600 at 1*l.*, already paid-up, thereby affording an opportunity for the public to invest upon easy terms, and deriving the advantages of what has previously been done, together with the machinery now standing on the mine, and in full operation.

WEST CHIVERTON is represented as opening out remarkably well, and will become a lasting and profitable mine. The mine has been worked for some years by a private gentleman, whose decease brought the property into the market, and it is now worked by a public company. On the 9th a parcel of 95 tons of lead ore was sold, realising the sum of 1412*l.* 9*s.* 6*d.*

At CALVADNACK meeting, held on the 7th, the accounts for the three months showed a debit balance of 270*l.* 6*s.*; but the prospects of the mine rendered a call unnecessary. The general appearances of the mine are of the most encouraging character, and there is little doubt but it will become a long-standing and paying one.

NORTH CROFTY is reported to have very considerably improved in the 170 west, where they have a large and productive lode, the present end being valued at 30*l.* per fm.——PEDN-AN-DREA is reported to have improved in the shaft, where the lode has again advanced to 50*l.* per fm., and looking well for further improvement. The 120 west is still worth 15*l.*, whilst the same level east has slightly fallen off; but the stope in the back of the 100 has improved to the same amount as the 120 has declined. The mine, upon the whole, is looking much better.

TRELOWETH is represented to have improved in several important points, and looking better generally. The shaft is in course of sinking below the 154, where there is a good lode for copper, and ground more favourable. The 154 end west has improved, and is worth 12*l.* per fm.; the lode west of sump-winze is worth 18*l.* per fm.; whilst other places are returning the usual quantity of ore.——TOLVADDEN MINE is represented as having very much improved in several important points, particularly in the deeper levels going east. A change of ground has also taken place, and has become more congenial for mineral. There are other objects towards which they are now directing special attention, which, when accomplished, will, no doubt, place the mine in a more profitable position.

GREAT LAXEY: The returns of this mine for years past have been of more than ordinary character, and now, since further capital has brought into operation more extensive developments, the vast resources of this property will become evident. According to accounts recently received, the mine is opening out beyond the expectations of the proprietary. Among divers improvements which have taken place may be noticed the

winze sinking from the 60 to the 100, worth 80*l.* per fathom; the winze below the 145 is yielding 10 tons of copper per fathom; the 145 end has intersected the slide, which will give 25 fms. of additional rich ore*y* ground. There are other points in this direction which will prove highly productive. The north lode is looking well, and Dumbell's, from whence so much is expected, is progressing highly satisfactorily.—WHEAL CRENOR: This mine is reported as progressively improving; the lode in the shaft is increasing in size as well as in the quality of the ore; the lode for the length is yielding 11 tons of ore per fathom, the western end being worth 12*l.*, yielding full 4 tons, and the eastern end is worth 7 tons, or 35*l.* per fathom, and on taking down the lode it is found worth 2 tons per fathom; the end is at present disordered by a splice, and is not of that value, but it is expected to improve again by the time the lode is next taken down. They will shortly commence driving east and west an 80 fathom level, on a splendid lode, which, it is expected, will open out a long run of rich ground.

At WHEAL MARGERY, an improvement recently took place in the 110 west, where the lode was estimated at 40*l.* per fm. This discovery continues to maintain its value, and looking well for a further improvement. This mine had been poor for some time previously, and doubts were entertained of any profitable results; but it is now hoped, with perseverance and energy, it will open out a good and lasting mine. JAS. LANE.

## SILVER MINING IN NORWAY.

Connected with argentiferous minerals there was, probably, nothing more attractive in the recent International Exhibition than the splendid specimens of native silver from the Kongsberg Mines, in Norway; and, perhaps, no better proof could be afforded of the general richness of the district in which those mines are situated than a reference to the circumstance that, although only a single group of mines have been worked by the Government, there has been obtained during the last twenty-five years a return of 1,377,769*l.*, at a cost of only 272,770*l.*, leaving a nett profit of 1,104,999*l.*, or an average of 44,200*l.* annually, an amount which is equal to nearly 400 per cent. per annum upon the outlay. But, enormous as have been the results obtained at the Government mines, it appears that even when they were opened the selection was not made upon the supposition that the mines were richer than others in the neighbourhood, but simply because an adit had been commenced that would unwater the mines in the course of a few years, and because the pumping machine was in excellent order. Previously to the year 1856 the Government was the sole adventurer in the silver mines; but since that period the "Storthing" has recommended a more liberal policy, and facilities have been offered for the application of private enterprise.

So great has been the wealth of the Government mines in the locality, that the city of Kongsberg has been made the seat of the Government mine direction, and it is considered that there is no reason why the mines of Skara and Skjelbreddale, where the fahlbands show a perfect similarity to those in the Government district, should not prove equally remunerative, when laid open to depths which have been reached at Kongsberg. The Skara Mines are seventeen in number, and comprise an area of 75,000 acres; they are about 7 miles from Kongsberg, 40 miles from Christiana, and within 7 miles of steam communication with the seaport of Drammen. The exclusive right to all the precious metals in the entire district are held by the present proprietors in perpetuity, under a grant direct from the King of Sweden and Norway, at the nominal rent of 60 specie thalers (about 16*l.*) per annum, and a company is now being formed for the purchase of these rights upon highly advantageous terms, and, by special permission, the official Director of the Norwegian Government Mines has joined the board, and will render active superintendence and assistance in developing the property.

Of the seventeen setts included under the title of the Skara Mines, three have produced an alloy of gold and silver, and pure gold in several forms from crystals to grain and leaf, and the richness of the alloy may be judged of by the fact that it has been found to contain 4½ ozs. of silver and 3½ ozs. of gold to the cwt. The mines have been carefully inspected and very favourably reported upon by Mr. John H. Clement, F.G.S., and Mr. T. Rördam, who until recently occupied the position of superintendent of the Norwegian Government mines. Mr. Clement concludes an elaborate report by observing that "altogether he knows of no more inviting set of mines, where the elements of success are more clearly visible, and where the history is more plain and honestly correct; and fortunate may the individual or company consider themselves who may have the opportunity to employ capital upon them, for he considers their reward will be large and lasting if good management and perseverance are properly enforced." The opinion of Mr. Rördam is not less favourable; he says that "the essentials of silver-bearing veins, or what is required for deposits of silver, is there in very strong fahlbands or ribbons of considerable width, in some places 5 or 6 fms. (a strong fahlband is the only certain guide for a rich deposit of silver, according to 250 years' experience). The Skjelbreddale vein is a splendid one, and will give silver in enormous quantities, and be highly remunerative if it only turns out what it looks. All the good features of the fahlband, according to experience, are there." The roads to the mines can be put in repair for a small expense, and timber of all kinds is cheap, the mines being surrounded by pine forests, and there is a sawmill close at hand.

The MINING LAWS OF BRITISH COLUMBIA have just been altered and amended, the better to suit the present condition of the mining region, and to secure the interests both of the Government and of the miners. I give a summary under a few heads, which will suffice to convey an idea of the general nature and terms of the law:—

LICENCES.—On payment of 1*l.* a-year, every person, of whatever nationality, becomes a "free miner," which confers the right to mine in all parts of British Columbia. A licence is not compulsory; but a miner without it cannot evoke the protection of law in vindication of "mining rights." Labourers generally go without a licence.

RECORDING CLAIMS.—The placer mines, or diggings, are called "claims," the ownership to which should be recorded or registered in the office of the district magistrate as an evidence of title. This registration costs 10*s.* 3*d.* for each "claim," and secures the miner "in the exclusive right to take the gold and auriferous soil upon or within" the same, so long as he continues to pay his annual licence fee. He can "carry the gold and soil away," and he is secured in his "flumes and property of every description, and in land for a residence." The fee is, however, reserved, as heretofore, in the Crown. Nothing could be more liberal than these terms.

SIZE OF CLAIMS.—Bar (in streams) or wet diggings, width, 100 ft.; length, from high water mark to the lowest water level, for each "free miner." Dry diggings, 100 ft. square. The same size allowed for all other diggings not specially mentioned, so that the size of the "claims" generally in British Columbia is 100 ft. square. Tunnel claims, a frontage of 100 ft., irrespective of depth. The gold commissioner allows sufficient time, &c., for "prospecting," or testing, before "the full number of authorised miners" need be employed on each claim. This is a concession to modify the enactment which requires each claim to be worked *bona fide*, and not merely "colourably," to prevent monopoly. In these tunnel claims "each miner shall be entitled to 100 ft. square," as I read the Act—a quantity which many think excessive.

RIGHTS of Prospecting Water necessary for Washing, and other practicable privileges, are secured to the miners; their rights of property are defined; their liabilities set forth, and the modes of redress provided for, all equitably and liberally.

QUARTZ CLAIMS (working gold *in situ*).—Size, 150 ft. in length, measured along the lode or vein, together with its spurs, dips, and angles, to the extent of 100 ft. in a lateral direction.

These dimensions are for each individual miner, I suppose, although the rules and regulations issued in conformity with the Act do not so state the size.

The Act is considered an improvement on the old law, and it appears well adapted to meet the views of practical miners.

GOLD FIELDS OF NOVA SCOTIA.—The report of the Committee on Mines and Minerals has been read and adopted in the Provincial Parliament. The committee had under consideration the petition of J. D. Nash, and others, asking for the establishment of an office of assay in this city by the Government, but they report that they do not deem it advisable to recommend the establishment of such an office at present. A well-informed correspondent complains that the adoption of the committee's recommendation with regard to the assay-office shows the shortsightedness of the Government, and mentions that nearly all the revenue derived from the gold fields is absorbed in salaries to the Gold Commissioner and his deputies, and in collecting duties. The miner is thus, he contends, oppressed instead of assisted, as would be the case were an assay-office to be established. This policy, he continues, has a most discouraging effect upon gold mining.

A Fish Manure Company, originated by Dr. Gesner and Mr. W. T. Rickard, analytical chemist, has been formed at Halifax, Nova Scotia. Operations will forthwith be commenced, in conjunction with Mr. J. D. Nash, who is also largely interested.

An able and interesting lecture was delivered before the Geographical and Statistical Society of New York by Mr. J. Smith Homans, on the Production of Gold and Silver throughout the World, but particularly in the United States: some valuable information was imparted. He stated that, though the amount of gold already obtained from the Pacific States was immense, the mineral resources in that region were, in the opinion of scientific explorers, as yet comparatively undeveloped. The gold region extends through 17° of latitude, and comprises an area of 17,000,000 square miles. The yield of the year of exporation, ending last July, was more than $100,000,000. So marvellous a development of mineral resources must eventually create a vast empire, with a commerce far surpassing anything yet known in the history of the world. The great influence which the United States have exercised upon mercantile affairs since the gold discoveries were fully set forth, and the indebtedness of Europe to this country on account of gold supplies were illustrated by the following statement:—

EXPORT OF GOLD FROM THE UNITED STATES FOR THE YEARS

| | | | |
|---|---|---|---|
| 1848 | $15,841,616 | 1856 | $45,745,485 |
| 1849 | 5,404,648 | 1857 | 69,136,922 |
| 1850 | 7,522,994 | 1858 | 52,633,147 |
| 1851 | 29,472,752 | 1859 | 63,887,411 |
| 1852 | 42,674,135 | 1860 | 66,546,239 |
| 1853 | 27,486,875 | 1861 | 29,791,080 |
| 1854 | 41,436,456 | 1862 | 36,886,956 |
| 1855 | 56,247,343 | | |
| Total fifteen years | | | $590,714,059 |
| Deduct foreign imports | | | 157,036,698 |
| Excess of exports | | | $433,677,361 |

The importance of the trade in petroleum, or American oil, continues to increase at an unprecedented rate. The importations into Liverpool this year are stated in a circular of Mr. Macrae to have been more than 70,000 casks, against 8000 casks in the corresponding period of 1862, yielding in dock and town dues alone nearly 2000*l.* for the four months.

A letter from France says that another new metal has been announced during the week. M. Osravais, professor of geology at Strasbourg, has obtained a hard shining metal, of the colour of gold, but soft as lead, from the mineral waters of Alsace. The metal, not admitting of a high degree of polish, will be useful to employ in the dull or coloured goldsmiths' work so much in fashion for ornament just now. The specimens, submitted to connoisseurs in Paris, have excited the highest admiration.

Geologists who are familiar with the idea of geological phenomena worked out through periods of inconceivable duration will, perhaps, be able to appreciate Mr. E. B. Hunt's argument on the growth and chronology of the great Florida reef. After stating the dimensions of the reef, Mr. Hunt proceeds:—"Taking the rate at 24 years to the foot, we shall have for the total time 24 × 250 × 900 on the data as stated; or we find the total period of 5,400,000 years as that required for the growth of the entire coral limestone formation of Florida."

# Mining Correspondence.

## BRITISH MINES.

ABERDOVEY.—A. Ede, May 11: The lode in the stope in the back of the 42, north of engine-shaft, is 7 ft. wide, producing 15 cwts. of silver-lead ore per fm. I have had the men some days clearing the water-courses, as the water being low we have had a favourable time for doing it. The machines are in good order, and working well.

ALFRED CONSOLS.—J. Thomas, T. Bawden, May 13: The 130 cross-cut, driving north of Field's engine-shaft, is progressing favourably. The lode in the 155, driving east of the Alfred engine-shaft, is 3 ft. wide, occasionally producing good stones of ore, with a kindly appearance. This level is now within 16 fms. of the ore ground gone down in the level above. The lode in the rise in back of the 111 is 2 ft. wide, producing saving work for copper. The lode in the 104, driving west of Painter's shaft, has improved, producing 2 tons of ore per fm. In the cross-cut driving south in the 93, west of Painter's shaft, we find the main lode to be 12 ft. wide, and the south part of it for 4 ft. wide of a very promising character. We are still extending the cross-cut south to intersect the south lode, now being driven on to the 104. In the 12, driving west of Nicholl's shaft, the ground is favourable for exploring, and of a very congenial nature for mineral, but the lode at present is unsettled, frequently intersecting cross branches. Our other operations are without change to notice.

ATLAS.—J. Warren, May 13: The eastern end in the 35 is still very wet; the lode is about 1 foot wide, worth 15*l.* per fm., and presents great indications of an improvement; the lode in the stope in back of this level is 14 in. wide, worth 20*l.* per fathom, capital lode. The western end at the 35 is very hard, and the lode, which is 1 ft. 6 in wide, poor for tin, composed chiefly of black capel, and carries a leader 6 in. wide, composed of white mundic, copper, and iron, on the footwall. The winze sinking below the 5 is down about 7 fathoms, and the lode seem thrown back on the footwall, and I am afraid very much disordered. We sent off our little batch of tin on Friday last, and you will see by the tin bill that the quality of the tin from the 25 to the 35 has improved over 10*l.* per ton, a considerable and decided improvement in favour of the mine. I have sent you, per Great Western Railway, a specimen from the 33 east, which was broken last night, and weighs upwards of 200 lbs.—N.B. The rock of tin above referred to can be seen at the offices of the company, 7, George-yard, Lombard-street.

BOSWORTHEN.—J. Daniel, May 14: We are making fair progress in driving the deep adit level west. The lode continues its usual size, from 3 to 4 feet wide, is tinny throughout. Have set again to four men to drive for the month, at 30*s.* per fm.; the winze under the shallow adit is communicated with this level, and good ventilation secured. We have dropped the drawing-lift 10 fathoms under the adit level, and, as stated in last report, expect to drain the 10 in the course of the present week. So far as seen the shaft is of fair size and in good condition, requiring scarcely any repairs.

CALSTOCK CONSOLS.—W. B. Collom, May 14: North Lode: The lode in the eastern end is improving for ore, now 1 foot wide, composed of quartz and ore. To the south of the lode is a branch of ore about 4 inches wide, which unites with the lode further east. In the back of the level we have commenced a rise, presuming that a valuable discovery of ore will be made near the cross-course.—South Lode: The lode in the eastern rise is going up very flat, underlying towards the caunter lode 8 feet per fathom. The branch of ore is increasing in size, and we expect the caunter lode will soon form a junction with this lode.—Western Pitch: The lode in this pitch will now yield from 2 to 3 tons of ore per fathom, worth 10*l.* per fathom.—Forty Fathom Level: The rise in the back of this level is up 7 fms.; both lodes are together, and from the improvement in the ground we may expect ore, as this rise is over the most productive ground we had in the deeper levels.—Danescombe Lode: The western level is driven 70 fms., the lode is composed of quartz and peach, with a little ore and mundic. In driving west, this lode will intersect several lodes, which are seen to the north, as the lode driving on is running 45° to the north of west.

CAMBORNE CONSOLS.—Wm. Roberts, May 13: In the 50 east, on the caunter, no lode has been taken down since last reported. Nothing new in the 50 cross-cut north. In the 50 west the lode is 1 ft. wide, producing stones of ore.

CARADON CONSOLS.—W. Rich, May 12: The horse of granite in the engine lode is nearly gone out; the south part of the lode is at present about 18 in. wide, and shows good spots of ore; the north branch is small. The main lode west is regular, and well-defined, and consists of peach, fluor-spar, and a little copper ore. The Menadue lode, in the 68 west, is disordered and unsettled, and the ground stiff, which makes our progress slow. In the 68 east this (Menadue) lode has a promising appearance, and carries better defined walls than it has hitherto at this level. There is no new feature to notice in the engine-shaft, sinking below the 68; we hope to reach the 80 in three weeks time.

CEFN CILCEN.—W. Davies, May 14: The mine is the same as last reported, save in the engine-shaft, in the sinking of which we have cut a lode worth about 3 tons to the fathom. We have not been able to dress our usual quantity of ore from the whim having been broken, which will be repaired to-day, when we shall resume our dressing. We have already dressed 6 tons of ore towards the next sale.

CENTRAL MINERA.—Wm. Davies, May 14: The sinking of the western shaft is become hard for progress; we have come to a bed of Jark limestone, letting out much water at present.

CLARA UNITED.—M. Barbery and J. Lester, May 15: Llywernog: The engine-shaft below the 36 is progressing favourably; the cross-cut south of engine-shaft is now in 33 fms. 3 ft. 8 in., but as yet we have no appearance of the wheal-pit lode. We have again taken down No. 2 lode in the 30, west of cross-cut, and we are glad to say it has come down well, yielding about ½ ton of lead ore per fm., with a very promising appearance. Surface operations as usual.

CRADDOCK MOOR.—H. Taylor, J. Taylor, H. Phillips, May 13: Menadue Lode: The 96 west is worth fully 1 ton of ore per fm. The 110 east contains good stones of ore.—Vivian's Lode: The 62 west is worth 1 ton of ore per fm. The 72 west stones of ore, but not to value. The stope in back of this level worth 2½ tons of ore per fm. The 84 west worth 1 ton of ore per fm.; the 86 west, 1½ ton.—Gilpin's Lode: The 62 east worth 1½ ton of ore per fm. The 62 west good stones of ore. The lode in the winze sinking below the 42 worth 1½ ton of ore per fm. The 42 east worth 1½ ton of ore per fm. The stope in back of this level worth 3 tons of ore per fm. The 48 east from Harris's shaft, although not rich, has a very promising appearance, we have driven through a good lode here, and are now sinking the shaft as expeditiously as possible below this level; there is every appearance of this lode being found profitably productive in depth.

CROOKHAVEN.—Capt. Thomas, May 11: According to your instructions, I have set the 20 and 40 cross-cuts to drive south to intersect the Purple and south lodes, at 5*l.* per fathom for each end; these ends will be pushed on as fast as possible. I would suggest the propriety of taking out the water from the winze sunk below the 7 fm. level, on the north part of the Purple lode; I am anxious to examine the bottom of this winze, to ascertain its character; the expense will be but trifling, and may lead to some good practical results.

CROWAN CONSOLS.—W. Paul, May 12: I was at the above mines yesterday, and find that the engine, with everything connected with it, is being hastened on towards completion very satisfactorily. The tributers in back of the adit continue to raise some pretty good quality ore, but the pitch has failed going up. We cannot now expect to find much ore above the adit level. It is downwards that we have to look for the ores that will pay. The good goesan continuing down to the adit, and below, with other favourable indications in the lode wherever seen, warrant the opinion expressed by all that have seen it we shall have abundance of good copper ore in depth. Part of the pitwork has been brought from Tavistock. We hope to get the remainder to complete the lift in a short time.

CUDDRA.—F. Puckey, E. Dunstan, May 14: We have not taken down any lode in the rise in back of the 60, or in the 75, west of Walker's shaft, during the past week; consequently there is no alteration in their value since our last weekly report. The lode in the stopes in back of the 75, west of the winze, is still 4 ft. wide, worth 3 cwts. of tin per 100 sacks. We have commenced taking down the lode in the winze sinking below the 75, west of the shaft, which is 3 ft. wide, and of a very promising character, composed of quartz, peach, and producing some splendid stones of tin; at present worth 4 cwts. per 100 sacks. We are still driving the 90 cross-cut, north-west of the shaft, towards the lode; in this end the ground is a little more favourable for driving.

CWMBRANE.—T. P. Thomas, J. Pollard, May 14: In the 40, driving north of engine-shaft, the lode is a little disordered at present, but will produce about 1 ton of lead ore per fm. In the 40, driving south, no lode taken away this week, last reported worth about 15 cwts. of lead per fm. The tribute parts of the mine are much the same as when last reported on.

CWMHEISIAN (GOLD).—G. Williams, May 11: At the east mine our progress is 19 ft.; lode 10 ft. wide, with a good mixture of minerals. At the west mine the lode in the back looks well. At the waterfall level the progress is 8 ft.; lode greatly improved.

DEEP LEVEL.—T. P. Thomas, May 13: The coal bed is looking so promising that we have determined to bore preparatory to sinking a shaft.

DEVON AND CORNWALL UNITED.—Thos. Neill, May 12: We have commenced driving the 34 both east and west of engine-shaft at William and Mary, and in the western end the lode is worth 2 tons of ore per fm. In the eastern level we have from 7 to 8 fms. to drive to get under the ore ground passed through in the shaft. In the 22 west the lode is worth between 2 and 3 tons of ore per fm. The stope in back of this level is producing 3 tons of ore per fathom. In the winze in bottom of the 22 east the lode is worth 5 tons of ore per fm. In the 22 east the lode is 2 ft. wide, worth 3 tons of ore per fm. In the stope in bottom of the 10 the lode is worth 3 tons of ore per fm. No change to notice in any other part of the mine.

DRAKE WALLS.—Thos. Gregory, May 14: Branches in the 102, east of Matthews's shaft, are producing some good work for tin. In the 60, west of Brenton's, the branches are producing good work. Branches in the 50 west are worth full 16*l.* per fm., and very promising. In the 40 west the branches are worth 12*l.* per fm. for the part being carried. Branches in Hooper's rise are worth 14*l.* per fm. We have not as yet intersected the lode in the 70 cross-cut north. Some of the stopes have rather improved.

EAST CARADON.—J. Seccombe, May 13: Caunter Lode: The 50 east is worth from 15*l.* to 18*l.* per fm.; 60 east full 40*l.*; 70 east, 30*l.*; 70 west, 45*l.* to 50*l.*—New Lode: The 70 east is worth 12*l.*, and the 70 west 5*l.* per fm.

EAST CARN BREA.—T. Glanville, J. Scholar, May 13: In the 50 fm. level, driving east of the cross-course, the lode is producing 2 tons copper ore per fathom. In the 50 fm. level, driving west, the lode is producing 1 ton of copper per fathom. In the western shaft, sinking below the 50, the lode is producing 1 ton of ore per fathom. In the rise in the back of the 26 fm. level the lode is producing 1 ton of ore per fathom. In the stopes in the back of the 50, the lode is producing 5 tons of ore per fathom.

EAST CLOGAU (GOLD).—K. Roberts, May 12: Since my last report, on St. James's lode, in No. 2 level, our progress in driving has been 4 ft. 6 in.; the lode maintains its usual size and character, and I have every confidence that we shall have a great improvement here very soon as we proceed further into the hill. No. 1 level, on St. James's lode, has been driven 7 ft.; the lode for the last 4 feet is not looking quite so well in consequence of a hard bar of ground crossing the end. I look upon this change as of a temporary nature, and that the lode from the present appearance will, in my opinion, soon become as good as before. We proceed on at St. John's cross-cut as fast as we can, and expect to go under cover very soon.

EAST DYLIFFE.—J. Evans, April 28: The stopes in the back of the shallow adit are looking exceedingly well, and will turn out a good quantity of ore. Also the lode in the side of the level driving south; I have a great opinion of this part of the mine, and wish to continue driving south upon the lode, as I believe it is leading into another lode. By the appearance of the surface I believe we shall find four lodes south of the present one, which will be about 12 fms. from each other, and two north at the same distance; but I would recommend to drive south, as all the sliders are running south from our present lode. The stopes in back of the 10 are turning out a good quantity of lead and copper. The stopes in the deep level are looking kindly, and will turn out a good quantity of ore. The branch in the deep level running south has greatly improved since last week, and holds a fair quantity of lead.

— J. Evans, May 6: We have our underground department in good working order, and have 26 men stoping upon ore. The stopes will turn out from 5 to 10 cwts. of lead per fm. I should recommend to sink and drive as soon as possible, in order to open up new ground, so that we can regularly send ore to market. In consequence of the continued dry weather we are very badly off for water, and our dressing is not going on so fast as I could wish. We have a large pile to dress, but cannot go on with it till we have some more water. We have 12 tons ready for market.

EAST GUNNIS LAKE AND SOUTH BEDFORD.—J. Phillips, May 14: We have taken down the lode in Gard's shaft, and find it to be worth 4 tons of ore per fathom for the length of shaft, with every appearance for further improvement. No alteration to notice in any other part of the mine.

EAST JANE.—J. Seccombe, May 15: The lode in the 14 north is producing 4 cwts. of lead per fathom. In the same level south it is at present disordered, but a portion, which is 2 feet wide, is yielding saving work. In the rise in back of the 14 north the ground is not so favourable as I could wish, but the lode is yielding saving work for lead. The rise in back of the 14 south is holed to the deep adit. The other points of operation are without alteration. The weather for the last few days has been much against our surface work, but, on the whole, we are progressing well with it.

EAST PROVIDENCE.—T. Uren, May 13: Boorman's shaft will be down to the 70 about the end of the month, when we shall commence at once to drive north-west to intersect the caunter lode, where a good course of tin is expected to be met with. The 60 is driving south-west on the caunter by six men, at 7*l.* per fm.; the lode is 15 in. wide, worth 25*l.* per fm. The same level is driving north-east by six men, at 5*l.* per fathom; the lode is 12 in. wide, worth 18*l.* per fm. A winze sinking below the 60 by six men, at 9*l.* per fm.; the lode is 12 in. wide, worth 20*l.* per fm. Our prospects are cheering, and we are opening up a good mine.

EAST ROSEWARNE.—J. James, May 14: We are engaged fixing lift in Hallett's shaft, consequently there is nothing done towards sinking since last report. In the 5 east the lode is about 9 in. wide, improving in appearance, and producing good stones of ore. In the rise over this level the lode is 18 inches wide, producing good stones of ore. The lode in the 65 west is small at present, but I think it will shortly open and improve, as the ground is wet and congenial for copper. The stope over this level is worth about 10*l.* per fm. The stope below the 55 east is worth 10*l.* per fm. In the sump winze the lode is from 18 in. to 2 ft. wide, worth 25*l.* per fm. The lode in the 55 west is 20 in. wide, worth 25*l.* per fm. The stopes over the 55 west are much the same as last reported, average value 20*l.* per fm.

EAST TRESKERBY.—John Nancarrow, May 11: In the 55 west we are driving through a good looking lode, but so far have not much ore. The lode in the 55 east continues rather small. We are now proceeding regularly with the rise, and appearances are favourable. The stope in the back of the 40 continues to look well. The 40 north is being proceeded with as fast as possible.

EAST WHEAL FALMOUTH.—W. Hancock, jun., May 11: The lode in the engine-shaft is much the same character as last reported. We hope to be down deep enough by the latter part of the month to commence driving a 27 fm. level. The lode in the rise (or stope), east of the shaft, is 2½ ft. wide, producing good tinny work. The engine and pitwork are all in good working order.

EAST WHEAL FORTUNE.—R. Roberts, May 12: We have set the adit level to drive east on the middle lode, by four men, at 3*l.* per fathom, and shall continue it on with all speed to communicate with the eastern shaft, which we find is 7 fms. in advance of the present end. On the north lode, in the cross-cut, we have set to drive west by two men, at 3*l.* per fm., and 2*s.* 6*d.* tribute for tin.

EAST WHEAL GRENVILLE.—G. R. Odgers, Wm. Bennetts, May 13: There has been no lode taken down this week in the engine-shaft, sinking below the 55. The ground in the 55 cross-cut north is looking very favourable for mineral, and we are expecting to intersect the lode seen in the 45 almost daily. The lode in the 55 west continues in two parts, the north one is 1 ft. wide, of spar and peach, producing a little tin. The ground in the 45 cross-cut north is very favourable for progress. At the 45 west there is a leader on the north side, which is producing very good work for tin, and which we look upon as a pleasing sign. The stope below this level is worth 10*l.* per fm. There are two stopes working in the back of this level; lode worth from 6*l.* to 8*l.* per fm.—New Lode: The lode in the 45, west of cross-course, is from 15 to 18 in. wide, producing some good ore, embedded in quartz, &c.—a very kindly lode.

EAST WHEAL RUSSELL.—J. Goldsworthy, May 18: Homersham's shaft is in regular course of sinking below the 120, in favourable ground for progress. In Maynard's cross-cut, in the 120 north, it appears as if the north wall of the lode is intersected, but this will be proved in a short time. In the 120, east of Maynard's cross-cut, the part of the lode being carried is 4 feet wide, composed of capel, quartz, iron, &c., with a little red oxide of copper. In the 120, west of Maynard's shaft, the part of the lode being carried is 4 feet wide, composed of pelan, quartz, capel, iron, and showing a better appearance. In Vigars's cross-cut, in the 120 east, driving north, the ground is hard, which makes the progress slow. In the 110, west of Fewin's cross-cut, on the north part of the lode, the part being carried is 3 feet wide, composed of capel, quartz, and iron, at present but little gossan; the lode has become more irony than before, and spare for progress. John's stope, in the back of the 110, is worth 9*l.* per fm. The new stope, in the back of the same level east, is worth 12*l.* per fm. In the 88, west of Mollard's cross-cut, on the north part of the lode, the part being carried is 2½ ft. wide, composed of capel, iron, mundic, and spots of copper ore. The ground in Harvey's rise, in back of the 66 east, is favourable for progress on the south part of the lode, which is composed of flookan, mundic, quartz, &c. In the 66, east of Collings's cross-cut, on north part of the lode, the lode is 1½ ft. wide, composed of capel, quartz, iron, and yielding saving work for copper ore. In the 45 east the lode is composed of flookan, mundic, quartz, and a little white iron, at present producing no ore. In the 88, west of Hitchins's engine-shaft, the ground in the cross-cut north is favourable for progress.

FURZE HILL WOOD.—T. Gregory, May 13: The sumpmen are making good progress in sinking the engine-shaft, which will soon be down for a 40. The north lode in the 20 west is producing good stones of tin. In the bottom of this level there is a good lode. We shall soon be in a position to cross-cut to this point from the 40. The 20 cross-cut north is still in the elvan, which is of a very favourable character for a deposit of mineral.

GARLIDNA UNITED.—J. Rowe, May 12: We have driven the 70 fm. level 9 fms. east; the end is now under the bottom, but the lode very hard and poor. We have stopped driving, and put the sumpmen to stope some tin ground west of the shaft. We have 20 men working on tin in the old mine; these men are raising about 3 tons of tin per month. No. 1 north shaft is sinking by nine men, at 23*l.* per fm.; the shaft is sunk 14 fms. below surface. We intend to sink 2 fms. more, then drive a cross-cut to intersect Cope's lode, which was a rich one in Wheal Foster, now a part of Basset and Grylls. We have completed the angle-bobs and iron rods from the engine to No. 2 north shaft; we hope to make good progress in sinking this shaft, which is sinking to develope Basset and Grylls lodes. Our shaft is sunk 6 fathoms. We expect to meet with the lode 20 fms. deep, and hope to get to that point in two months. Our prospects in the north ground are exceedingly good.

GAWTON.—G. Rowe, May 9: The 36 west is being continued on the south part of the lode, which is 4 ft. wide, yielding some good quality ore; the main part is standing to the north, which is large and spare to drive in. The lode in both Nos. 1 and 2 stopes, in the back of this level, is looking exceedingly well, and producing the usual quantity of ore. The western engine-shaft is in regular course of sinking, in favourable ground, but we find the water to be increasing fast. The engineer is expected on the mine on Monday next, when the masons, &c., will immediately commence the buildings, to receive the machinery, &c.

GREAT BRIGAN.—T. Trelease, G. Oates, May 9: The ground in Harvey's engine-shaft is much the same as last reported. At the 61, west of the engine-shaft, we have cut through the lode; it is about 4 ft. wide, and worth 12*l.* per fm. The lode in this level, driving east of this shaft, is 1 ft. wide, producing stones of copper ore. The lode in cross-course shaft, sinking below the 49, is 2½ ft. wide, producing good stones of copper ore, of a kindly appearance. The lode in the 49, east of said shaft, is 3½ ft. wide, containing stones of copper ore. We have put in a cross-cut at the 42 a little to the east of Bawden's pitch, where the lode was reported to be worth 15*l.* per fm., and holed to the old men's workings from the level above. The lode in the pitch below this level is still worth 15*l.* per fm. We shall clear out these old workings to ascertain the extent of the same. The lode in Tom's shaft, sinking below the 32, is 18 in. wide, producing stones of ore. We have suspended the driving of the 32, east of said shaft, in consequence of being within a few fathoms to this level extended west of Trelease's; we have set a pitch in back of this level at 10*s.* in 1*l.* The lode in the 42, driving east of Trelease's, is 18 in. wide, with stones of ore. The lode in this level, driving west of Hicks's winze, is 20 in. wide, worth 12*l.* per fm. The lode in Highburrow shaft, sinking below the 33, is just the same as last reported. The lode in the 33, east of said shaft, is a little improved, containing some very good stones of ore, of a promising appearance. No lode yet intersected in either of the cross-cuts, north or south, at the deep adit level.

GREAT CARADON.—F. C. Harpur, May 9: I have no particular change to inform you of since my last report. The ground in the north cross-cut is just now rather hard for driving through, carrying veins of mundic and spots of lead ore. In the south cross-cut the ground is favourable for exploring, and the men are making fair progress.

GREAT DAREN.—R. Williams, May 13: We are now engaged in dressing up the stuff on the floors, and the men are bringing out the ore broken underground as fast as possible. The prospects in Oliver's level are brightening considerably, and the ore is making down in the end.

GREAT LAXEY.—R. Rowe, May 12: During the last month the mine has shown but little change. Our progress in sinking the corner shaft is more rapid than we reckoned on, owing to the improving character of the ground. The winze sinking from the 60 to the 100 is increased in value, and worth 80*l.* per fm. The 145 end, driving south, has reached the slide which forms the north boundary of the copper ground; and in the course of this month we hope to intersect the lode on the other side, and by tapping the water in this level, lay open 25 fms. additional high ground, to all appearance rich in copper. The winze sinking from this level, about 20 fathoms behind the end, is down 9 fms., and worth 10 tons of good copper ore per fm., but not equally good for lead as last reported. The 165 end is now being driven by the side of the lode (which shows copper) for the purpose of hastening its communication with the 145 winze; we shall then prove its value by cross-cuts. The stopes in the 190 are looking much better for lead than for some time past, but those in the 200 are not so good as expected.—North: The lode in the 200 end, north of Welsh shaft, is about 3 feet wide, poor for lead, but worth for jack 4 tons per fm. The stopes in the sole of this level are looking exceedingly well. The 190 end is at present unproductive. In the 165 end the lode is from 5 to 6 feet wide, principally good for jack, and worth 1 ton of lead and from 7 to 8 tons of jack per fm. The lode in the 110, under Dumbell's, has increased to about 3½ feet wide, but without any other change. At Dumbell's the appearances continue as last reported. Our raisings last month were:—Lead, 50 tons; blende, 400 tons; copper, 150 tons; the last-named I expect very soon materially to increase.

GREAT NORTH DOWNS.—T. Trelease, May 9: Yesterday being our tutwork and tribute setting, I beg to hand you particulars of the same. The engine-shaft to sink below the 47, as deep as the 57, by twelve men, at 40*l.* per fm.; lode 4 ft. wide, worth 5*l.* per fm. Jenkin's shaft to sink below the 47 by six men, at 8*l.* per fm.; the leading part of the lode is 2 ft. wide, worth 18*l.* per fm. No. 1 winze to sink below the 47 by four men, at 5*l.* 10*s.* per fm.; lode 2 feet wide, worth 10*l.* per fm. Job's shaft to clear and secure by six men, for the month, at 8*l.* per fm; we find the lode each end of the shaft stoped away. A stope in the 47, west of the engine-shaft, by four men, 4 fms. or the month, at 3*l.* per fm. The 47 to open east of Jenkin's shaft by three men and three boys, at 40*s.* per fm. A cross-cut to drive south of Bawden's shaft, at the 40, by two men and two boys, 2 fms. or the month, at 5*l.* 10*s.* per fm. A cross-cut to drive south of Brown's shaft, at the 30, to intersect Peevor tin lode, by two men and two boys, at 6*l.* per fathom. The 17 to drive east of the above shaft by two men and two boys, at 2*l.* 10*s.* per fm.; lode 2 ft. wide, worth for copper ore 6*l.* per fm. River shaft, to clear below the 40, by six men, for the month or the bottom, at 20*s.* per fm. Nothing else new since our last report. We set 17 pitches, varying from 9*s.* to 13*s.* 4*d.* in 1*l.*

GREAT RETALLACK.—Wm. H. Reynolds, May 12: In Stephen's shaft the part of the lode sinking on is spotted with copper ore, but does not at present contain sufficient to value. In the rise in back of the 40, west of engine-shaft, the lode yields a little blende, and we think it likely to improve. The blende pitches are looking just as they have done for some time past. We sampled a small lot of silver ore on Friday last, computed 34 cwts., and bids for which will be received at the office on or before May 20. We shall sample between 40 and 50 tons of blende to-morrow.

GREAT SOUTH TOLGUS.—J. Daw, May 13: Friday last was setting-day:—We have again commenced to sink Lyle's shaft below the 154; the lode is large, and producing some tolerably good work for tin; sinking by six men, at 25*l.* per fm. The lode in the 154 east is 6 ft. wide, producing some good stones of tin; driving by six men, at 7*l.* per fm. The lode in the 154 west is 4 feet wide, and much the same as in the east end; driving by four men, at 5*l.* 10*s.* per fm. The 140 east is suspended, and the men are put to rise in the back of the level, where the lode is 1 ft. wide, spotted with copper ore; rising by four men, at 4*l.* per fm. We hope to hole the rise in the back of this level, west of shaft, in about a month from this time; when accomplished it will ventilate this level. The lode in the 125 west is 1½ ft. wide, producing occasional stones of copper ore; driving by four men, at 3*l.* 5*s.* per fm. In the 125, east of new shaft, the lode is small and unproductive; driving by four men, at 3*l.* 10*s.* per fm. In the 112 west the lode is 1 foot wide, unproductive; driving by four men, at 3*l.* 5*s.* per fm. In the 100 west the lode is 1½ ft., producing 1 ton of ore per fm., and is promising for improvement; driving by four men, at 3*l.* per fm. In the 100, east of the large cross-

course, the lode is small, and the ground still hard; driving by four men, at 7*l.* per fm. In the 60 west the lode is 2 feet wide, producing stones of ore; driving by two men, at 3*l.* per fathom.

GREAT WHEAL BUSY UNITED.—T. Trelease, John Petherick, E. Richards, R. Giles, W. Trelease, May 12: The lode in Harvey's engine-shaft, sinking below the 130, is 2 ft. wide, producing good stones of tin. In the 120, east of Harvey's, the lode is about 4 ft. wide, and worth 20*l.* per fm. for tin. The lode in Offord's shaft continues to improve, and is now 2 ft. wide, worth 25*l.* per fm. for tin. In the past week, whilst taking down the lode, we cut more water, so much so that the 120 is now quite dry; this we regard as a very favourable indication. In the 120, east of Offord's shaft, the lode is about 18 in. wide, and yielding small quantities of tin, but not to value. The lode in the 110, east of Offord's, is still small and poor. The lode in Ennor's winze, sinking below the 110, east of Offord's, is small and unproductive, but we are pleased to find the footwall taking a better angle than it has since we commenced to sink. In Trevenning's winze, sinking below the 100, the lode is about 4½ ft. wide, worth 20*l.* per fm. for copper and tin. The lode in Matthews's shaft, sinking below the 100, is 3 ft. wide, and worth from 15*l.* to 20*l.* per fathom for tin. In Nicholl's winze, sinking below the 100, east of Matthews's shaft, the lode is 7 ft. wide, and worth for copper and tin 45*l.* per fm. In the 100, east of Matthews's shaft, the lode is 7 ft. wide, worth for tin and copper 15*l.* per athom. The lode in the 100, west of Fielding's shaft, is about 2 feet wide, yielding a little tin, but not to value. In the 90, east of Matthews's, the lode is again resuming its former appearance, is about 5 ft. wide, and producing a little tin. We have not yet intersected any lode in the 70 cross-cut, north of King's shaft. The lode in the 50, west of Black Dog shaft, is still very large, and producing good stones of copper ore, and is of a very promising character. We have cleared the 40, west of this shaft, to the present end (28 fathoms). We find the lode very large, but not of the promising character as that which now presents itself in the 50, which shows it is improving in depth.—Boscawen's Mine: In the 70, west of Kitelee's shaft, the lode is 1 ft. wide, with a more promising appearance than formerly. We are now engaged in fixing the standing-lift at Hunter's 70 fm. level, and expect to complete the work against Saturday next. In the 70, driving west of Hunter's shaft, the lode is 9 in. wide, worth 7*l.* per fm., and still improving every foot we drive. The lode in the 60, west of Hunter's, is 15 in. wide, and yielding stones of ore, but not to value. In the 30, east of John's shaft, the lode is 8 in. wide, producing stones of copper ore. In the 30, east of John's shaft, on Sampson's lode, we have intersected the main part of the cross-course—lode disordered. We have not yet reached the bottom of the caunter shaft, but are still clearing with all speed.

GUNNIS LAKE.—N. Seccombe, J. Rodda, May 12: Clitter's Adit: The cutting plat, putting in penthouse, &c., at the engine-shaft named in our last report, is completed, and the lode cut into in that level; the lode is 5 ft. wide, producing full 1 ton of black and grey ore per fm., in a fine looking gossan. The lode is also yielding splendid work for tin, worth for tin and copper full 20*l.* per fm. The rising against the above shaft, in back of the 10, is now being carried up by the side of the rich tin lode standing to the north of the rise; the lode for copper is yielding 1 ton of ore per fm. The stopes in this level are producing 2 tons of ore per fathom. Another lode has been opened in the past week, 120 fms. south of the Bonny lode, worth for tin 15*l.* per fm.; this lode has never been wrought on except on the surface, and is, therefore, standing entire in back of the adit all the way to surface, a height of 80 fms., and over 700 fms. in length. The driving east, on the south lode, is continued, and still in unsettled ground; but from the fact that a considerable stream of water is issuing from the end, we hope soon to meet with a good productive lode in this level. Other places are without any change to notice.

GWYDYR PARK CONSOLS.—Captain Smyth, May 14: We took down the lode in Gwydyr Park deep adit this week, and I am glad to say it has improved since last time; it is now about 2 ft. wide, composed of a nice-looking spar, mixed with lead ore, worth of the latter 5 cwts. per fm., and still looking kindly to improve. There is no change in Gwayn Lliden deep adit since I wrote you last; the ground is rather hard. We are progressing favourably with the dressing.

HARWOOD.—J. Race, May 8: We have a beautiful vein in No. 3 rise. In the west end the ore is much spread about; its value is difficult to estimate, but worth fully 1 ton per fathom. In the east end it is the same, and both likely for improvement. No. 2 rise is still poor. Other parts as last reported.

HAWKMOOR.—J. Richards, May 12: The lode in the 50 west is 1½ ft. wide, composed of capel, quartz, mundic, and spots of copper ore occasionally. In Job's rise in the 50 east the lode is being taken down, which will be finished this week, and the men will at the beginning of next week commence a cross-cut from the 20 towards the south lode. In the 90, west of Graham's shaft, the lode is still disordered.—West Hawkmoor: No. 3 lode, driving west, has become small, composed principally of quartz of a kindly nature. In the stopes in the back of this level the lode varies in size from 2 to 4 ft.—some good tin work. In the winze sinking below this level the lode is not yet taken down.

HENDY MINERAL WORKS (Llantrissant).—Robt. Smith, May 14: We have now completed the open cut leading to the adit, and have secured the entrance by stong retaining walls and arch, and have commenced cutting out the foundations for a bridge over the Clawn brook, for the tramway to pass over to the Mwyndy Railway. The heading leading from the bottom of the shaft towards the line of adit is now about 14 yards in, and has arrived at the point where it will turn to the north and the south. The hematite iron ore continues very good, and I expect as the workings extend to the north and east the bed will thicken, and be more productive. The incline drift is now 12 yards north of the east level heading, and on Monday next a level heading will be commenced from the face on the north extremity of the incline drift, and will be driven in a westerly direction, when I expect to meet with a good deposit of ore.

HINGSTON DOWN CONSOLS.—T. Richards, May 13: The 110, west of Morris's shaft, is worth 18*l.* per fm.; the stope in back of this level is worth 25*l.* per fathom. The 100 west is worth 5*l.* per fm.; the stopes in back of this level are worth on the average 20*l.* per fm. The 85 west is worth 20*l.* per fm.; the stopes in the bottom of this level are worth on the average 30*l.* per fm. The stopes in the back of the 75 are worth on the average 20*l.* per fm. There is no change in any other part of the mines.

KELLY BRAY.—S. James, May 9: The lode in the 85 east is 1½ foot wide, composed of quartz, mundic, and rich stones of ore; a very promising lode, and showing indications that we are getting into the same run of productive ground which we had in the levels below. There is at the above point many hundreds of fathoms of unexplored ground, standing east and upwards, which will occupy years to takeaway, should it be found as productive as in the levels below; looking at the present prospects of the mine there is every reason to expect it. The lode in the pitch in bottom of the same levels is producing about the same quantity of ore as for some time past—4 tons per fm., worth 4*l.* 10*s.* per ton. The lode in the rise in the 75 east is improved, now 1½ foot wide, producing good stones of ore; a very kindly lode going east, and up in whole ground. The lode in the 35 east is 1½ foot wide, producing good stones of ore, and embedded in congenial strata for the production of copper ore. The tribute department in this mine is looking well. We have this morning weighed 36 tons of ore, which will come into the next sampling, and have on the floors about 20 tons in the course of dressing, which will tell for itself the first week after sampling the position we are in.—Eastern Mine: The lode in the 70 east is about 2 ft. wide, composed of quartz, mundic, and spots of ore, intermixed with patches of elvan, and there is more water oozing from the end, which we considered a favourable indication. The rise going up towards the 60 for ventilation is progressing satisfactorily.

LADY BERTHA.—Capt. Harper, May 11: The lode in the 41 east is about 2 ft. wide, composed of peach, mundic, quartz, and ore, worth of the latter 2 tons, or 6*l.* per fathom. In the winze sinking below this level the lode is 1½ ft. wide, composed of quartz, mundic, and occasional stones of ore. No change in the ground in the rise above the back of the 30 east, towards the new shaft, being pretty favourable. In the cross-cut, driving north at the 30, the ground is rather hard for exploring. The lode in the winze sinking below this level (30 east) is about 2 ft. wide, composed of peach, mundic, and ore, worth of the latter 2 tons, or 6*l.* per fm. In the 20 east no lode has been taken down since last reported. The ground in the new eastern shaft continues much the same as for some time past—moderately easy for sinking through. I have no particular alteration to notice in the tribute department.

LOWER PARK.—Wm. Davies, May 16: The 75 yard level, driving east from the eastern shaft, is looking very promising for ore. The 50 yard level, driving west, is producing good stones of ore occasionally, but not enough to value. The winze sinking below the 26 yard level, in the office shaft, is speedy for progress, but unproductive for ore at present.

MAUDLIN.—J. Tregay, May 11: The lode in bottom of the sump-shaft is 6 ft. wide, and produces good stones of copper ore. The lode in the 57 west end, driving into the greenstone, has improved in size and quality, and now produces saving work for copper ore. At the west mine the ground in the cross-cut is favourable for progress.

MINERA UNION.—Wm. T. Harris, May 14: The ground in the 80 yard level has slightly changed for the better; the lode has also improved, and letting out a little water, which is an encouraging indication. No. 1 winze, sinking below the 60 yard level, is without alteration. In No. 2 winze the lode is producing saving work for lead, and is very promising. At Williams's shaft we have set the whim, and prepared shaft, &c., for winding from the 40 yard level; we shall now be in a position to deliver the stuff to surface much more conveniently than through Fine shaft. The lode in the 40 south is worth 1 ton of lead per fathom. The tribute pitches throughout the mine are as last reported.

MOLLAND.—T. Bennetts, May 13: The lode in the rise in back of the 62 east has become small and poor, producing stones of ore occasionally; I am inclined to believe it will, however, improve again shortly. In the winze sinking below the 62 east we have met with a small slide, which has disordered the lode for the present, and which I believe will prove to be only temporary. The stopes in the bottom of the 32 east are producing from 1¼ to 2 tons of ore per fm.; the men are now engaged in taking down a branch in the side, and securing the ground in the level. The ground in the adit shaft is moderate for sinking in; the lode is small, with spots of ore occasionally.

NANTEOS.—R. Williams, May 13: There is no alteration here since my last, except that the rock in the adit end is more hard, and assumes the character of that closely bounding the lode further up, which shows we are very near the desired point; the water is more strong than hitherto, but the ground has been so close lately, and is still, that very little can come through it. I hope in a short time to have to communicate the pleasurable news of opening a good lode, which will reward us for all our anxiety and patience.

NANT-Y-IAGO.—J. P. Roach, May 9: In the 20 east the lode is 18 in. wide, yielding 1 ton of silver-blende per fathom, and a small quantity of lead; in the same level west the lode is 2½ ft. wide, producing ¼ ton of lead and ¼ ton of blende, worth about 7*l.* 10*s.* per fm. No other alteration in the mine since last reported. The shaft has been divided and cased to the 20, penthouse fixed, &c. We shall now discharge the stuff from here by the drawing-machine, which will enable us to dispense with two labourers. We shall commence stoping the back of the 20 as soon as we have cleared the level of stuff broken. We have delivered 18 tons of ore, and the carrier has promised to complete the parcel on Tuesday next.

NETHER HEARTH.—William Vipond, May 9: There is no change yet in the end the east cross vein level. We have driven up to where we ought to have cut the first east and west vein, but we see nothing like it yet; we must have it in a day or two. We have some ore in the whetstone in the new level, but not to value. We got a deal more water from the vein yesterday. I am afraid we cannot pursue it much further if the water continues.

NEW TRELEIGH.—S. Michell, May 12: Nothing new in the 90, east of Carr's engine-shaft, for the past week. The stope in the 80, east of Carr's, is looking very well for several fathoms in length. We have reached the flookan or the western part of the cross-course, in the 70, west of the shaft; the lode still contains a little ore, but not to value. There is no alteration in the 70 east since last week. The sumpmen have nearly completed the ground for the reception of cistern-rods, &c., in Good Fortune shaft. The 50, east of the shaft just named, is a kindly end, but hardly looking so well for ore as it did a short time since, but likely to improve again. The 70, west of Symons's shaft, is a promising end; we are driving by the side in order to make better progress, and to have the ore cleaner when the lode is taken down. We have cleared up the bottom of this level east of the shaft, and find that the lode is grey for several fathoms long. I may venture to say it is a tolerably good lode, but wet; very likely this will be drained when the water is forked to the 80. The winze sinking below the 44, west of Symons's, is down nearly 4 fms.; the ground is rather spare for sinking. The stopes in the 34 and 20, west of Symons's, are producing a fair quantity of ore. The pitches generally are looking better than they have for some time past, and we calculate our next sampling will be well on to 100 tons. We have commenced drawing from the 70, at Symons's shaft, and find the draught to be very great for horses. When the stuff was drawn from this level in the last working it was done by the steam-whim from where it now stands; and in order to facilitate our operations we must have something in that way now.

NEW WHEAL PROSPIDNICK.—W. Bishop, jun., May 9: No lode has been taken down in Watson's engine-shaft for the past week. The 30 end, west of this shaft, continues very kindly for the production of tin. I am glad to say the ground in the 30 cross-cut is considerably eased for driving, and is also letting out more water. No unfavourable sign this. Our progress in sinking the new engine-shaft has been retarded this last few days by meeting with a hard floor of spar, but it is now got through, and the men will continue to make their usual speed in sinking.

NORTH BASSET.—T. Glanville, G. Davey, May 13: In Grace's shaft the lode is 18 in. wide, producing good stones of copper ore. In the 102, west of Grace's shaft, the lode is 3 feet wide, composed of spar, interspersed with copper ore. In the winze under the 92, the lode is 18 in. wide, yielding stones of copper and tin ores. In the winze under the 82, the south lode is 3 feet wide, composed of spar, peach, and stones of tin.

NORTH BULLER.—R. Pryor, J. Webb, May 9: Engine-shaft: During the last ten days we have been busily engaged in putting in a new balance-bob to the engine, which is set to work, and have since cut ground for cistern and bearers at the 78, dropped pit-work 6 fms. below the 85, and the water is now drained 2 fathoms below this level. No time shall be lost in clearing this shaft, so as to fork the water to the bottom of the mine. Most of the underground men have been engaged in the above work, therefore there has but little change taken place in our bargains since our last report, with exception of the lode in the stopes, which has been a little disordered, but is still producing good work for tin. We hope to have the water in fork at King's flat-rod shaft by Monday next.

NORTH DOLCOATH.—E. Rogers, May 4: The lode at the adit showed a very promising appearance, being from 4 to 5 feet wide—a well-defined lode, from which several thousands of pounds worth of silver ore were risen, but I believe at this level it produced little or no copper ore. At the 10 fm. level the lode underwent a great change of a less favourable character, and although they have driven at this and at the 25 and 35 fm. levels a great number of fathoms, nothing of value has been found, and it was thought advisable, and that very properly, to suspend operations in the shallow levels, as the only chance appears in depth. This character of lode continued to near the 50, at which level it began to improve in appearance, and more productive; this level is extended east of shaft 35 fms., and west 20 fms., the lode varies in size from 2 to 4 feet wide, producing a little copper ore for nearly the whole distance, and in places worth 10*l.* per fathom; this level has produced for the whole drivage, with a little that has been had from the 60, about 100*l.* worth of copper ore. The bottom level is the 60, where the lode is opened on east and west of shaft 17 fms.; the lode also in this level varies in size from 2 to 5 feet wide, and although not rich enough at present to value is a very kindly-looking lode. There are other lodes in the sett, but not wrought on below adit, the whole being traversed by cross-courses, elvans, and flookans, the value of which in a good mining district, like Camborne, requires no comment, and it should be remembered that the large elvan course which traverses the whole district stands in the same position to North Dolcoath as it does to the mines that have been so rich to the east, and in connection with which the lodes are scarcely ever known to fail; and this is a champion lode, its character and composition, as well as its country, being identical in all respects to the other rich mines in the district, the ground being easy to work, renders the cost of making a further trial comparatively small. On the whole, I have no hesitation in saying that I believe, when this mine is further developed, it will prove remunerative to the adventurers.

NORTH JANE.—J. Evans, May 13: The mine throughout is looking much the same as reported to the meeting. We sampled yesterday (computed) 50 tons of gossan.

NORTH LAXEY.—R. Rowe, May 12: The new engine-shaft is down 3 fms. below the 50; the lode is close upon 4 feet wide, and worth 2 tons of ore per fathom. The 50 end, driving south, is again getting clear of the disordered ground; the lode is about 1 foot wide, and worth from 5 cwts. to ½ ton of lead per fm. No alteration in the stopes in the 38 fm. level.

NORTH MINERA.—T. P. Thomas, J. Dunkin, May 13: On Saturday last, being our pay and setting day, the following bargains were re-let:—The eastern shaft to sink under the 15 fm. level, to nine men, for 5 fms., at 20*l.* per fathom. The shaft is down 7 fms.; we consider the ground very congenial for lead. A winze to sink under the 45 yard level, which has lately passed through a bed of shale, which has disordered the lode for the present; the main wall holds good through this shale, which is very important, and we expect an improvement shortly; this winze is let to six men, at 8*l.* per fathom. A pitch in back of the 15 fm. level, west of eastern shaft, to three men, at 7*l.* per ton of lead; this pitch will produce about 1 ton of lead ore per fathom.

NORTH NANT-Y-MWYN.—Captain Williams: In the level in the wood there are good bunches of ore; I examined some of the ore on the surface, brought out of this level; the ore is of the same quality as that on the top of the old workings, and easy for dressing. The levels are of great length, and fine backs. There is a level eastward of the present landing shaft, where, from information I gleaned from old miners in the neighbourhood that it was from this part the former workers raised most of their lead; they told me that scores of tons had been raised from this part. The cost of opening this level will not be much, and excellent backs will be gained by driving westward, as the ground rises rapidly in that direction. I will report further upon this in my next.

NORTH TRELAWNY.—H. Hodge, H. Harvey, May 14: In the lode in the 86 south there is no change since our last; the ground has been stiff and wet, consequently our progress has been rather slow; at present it is easier for driving, and we expect shortly to get through the disordered ground, where we expect an improvement in the lode. The winze sinking under the 76 is suspended, and the men are now engaged in driving the 76 south. The stope in the back of this level is producing 4 cwts. of lead per fm. The 65 cross-cut is extended west of the quarry lode 25½ fms. towards the western lode; the ground is easier for exploring, and more water coming from it; should the lode continue its bearing and underlie as in the old mine, we must be getting near it.

NORTH WHEAL ROBERT.—J. Richards, May 13: Murchison's Shaft: At Elliott's cross-cut south, in the 52 west, the ground is hard and slow for progress. In the 42 fm. level west, east of Heard's rise, on No. 1 south lode, the lode is 18 inches wide, yielding good stones of ore. In the 30 west, east of Edward's cross-cut, or Heard's rise, on No. 1 south lode, the lode has improved; it is 18 in. wide, composed of mundic, quartz, capel, and ore, worth 1½ ton per fm., and the appearances indicate further improvement. At Edward's cross-cut south, in the 30 west, the ground is favourable for exploration. At Southcombe's cross-cut north, in the 30 west, the ground is very favourable, and good progress is being made. In the 30 west, and west of Stancombe's cross-cut, on No. 1 tin lode, the lode is 3 ft. wide, composed of capel, mundic, quartz, and stones of both tin and copper ores are being obtained.—Trial Shaft: In the 62 west, east of Scoble's cross-cut, on No. 2 south lode, the lode is 18 in. wide, yielding stones of ore occasionally. In Tregemba's cross-cut north, in the 62 east, the ground has become mixed with quartz; water is also beginning to issue, which is to be considered a good indication. In the 42 west, east of Rowe's cross-cut, on No. 1 tin lode, or on the north side thereof, the ground is favourable, and a branch of copper ore is being laid open on the foot or north wall worth ¼ ton per fm. In the course of another month this drivage will have been extended far enough to get back over Tregemba's cross-cut, in the 62 below, when and where a winze will be sunk without delay. In the meantime the lode in the 42 will be taken down by another pare of men. In the 20 west on No. 1 tin lode, the lode is 1 ft. wide, yielding a little tin ore.

OLD WHEAL NEPTUNE.—E. Harvey, May 14: Trevelyan's engine-shaft is sunk 24 fms. below the deep adit; we have communicated with the 22, and shall clear and secure the same as soon as we can get boundary shaft to the same level. Boundary shaft is now cleared 18 fms. below adit, and a few days will enable us to communicate with the 22. The lode in the engine-shaft is full 4 ft. wide, composed of gossan, friable spar, and impregnated with rich copper ore; the ground still continues favourable for sinking, the price being only 7*l.* per fm. At boundary shaft we are clearing the 12 east, and are now in about 15 fms. from shaft; there is ore ground standing in the back of this level, which will be set on tribute as soon as the level is cleared and ventilated. At Polkinghorn's shaft we are driving the 10 east on the north lode, which is producing stones of yellow copper ore and jack, a very kindly lode, with strong indications of an improvement. In Stephen's 10 fm. level, east of the shaft, the lode is about 2 ft. wide, composed of quartz and mundic, and a little copper ore; the ground is greatly improved, and getting more congenial for mineral. We are sinking a winze on Manby's lode, below the deep adit level; the lode is about 2½ ft. wide, producing good stones of copper ore; a promising lode, and will, in my opinion, be found very productive when seen at a deeper point. The stope in back of this level is producing some rich work for tin, which we are carefully saving, and hope shortly to have a sampling of tinstone. We are still sinking the engine-shaft dry, which effects a considerable saving, and enables us to sink the same with greater dispatch. All the surface operations are progressing.

PANT-Y-PYDEW.—R. Nankivell, May 14: We have again resumed the sinking of Kendrick's engine-shaft; the lode is 2½ ft. wide, producing a little ore—a very promising lode. In the 70, driving east, the lode is 2½ ft. wide, producing saving work, and is daily improving; we have eight men in this end, and shall push it on with all speed to the old sump, 20 yards east, where the long talked-of bunch of ore is. I have no doubt we shall get good ore ground from the present end to the sump, also further east, as we extend our workings. We have stopped the driving of the 54, west of whim-shaft, for a short time.

PEDN-AN-DREA UNITED.—W. Tregay, J. Thomas, May 9: The lode in bottom of the sump-shaft is again improving, being now worth 50*l.* per fm. for the length carried, 15 ft. The 120 east end is worth 15*l.* per fm. The 120 west is worth 16*l.* per fm. The 110 west is worth 5*l.* per fm. The 100 east is poor. The 100 west end is worth 10*l.* per fm. The rise in the back of this level is worth 20*l.* per fm. The 100 west, on Skinner's lode, is worth 7*l.* per fm. The 90 west, on engine lode, is worth 8*l.* per fm. The 90 west, on Martin's lode, is worth 3*l.* per fm. The winze in the bottom of this level is worth 10*l.* per fm. The rise in back of the 80 is worth 5*l.* per fm.—Cobbler's: The 90 east end is worth 7*l.* per fm. The 68 west is worth 8*l.* per fathom. Some of our pitches have considerably improved, and the tribute department generally is looking well—better than for some time past.

PENDEEN CONSOLS.—J. Warren, May 9: In the 130 south the lode is 3 ft. wide, worth 40*l.* per fm. In the 118 south the lode is 2½ ft. wide, worth 20*l.* per fm. In the stope behind the same the lode is worth 15*l.* per fm. In the winze sinking below this level we are dressing the lode, which will not be taken down until communicated with the 130 south; the wall of the lode has a kindly appearance, and there is no doubt but that we have gone down through a good lode. In the other parts of the mine there is no change to notice.

PENHALLS.—R. Pryor, sen., Wm. Higgins, May 9: We have cut a flat lode in the 40, east of engine-shaft, which is 1 ft. wide, producing good stones of tin. The lode in the 20, west of cross-cut, is 18 in. wide, worth 5*l.* per fm.; in extending this end about 3 fms. further it will unite with another part of the lode, at which point an improvement may be expected, as it will be out of the influence of the slide. The lode in the stopes in back of the 20 is still worth 14*l.* per fm.; and in the stopes below the 10 fm. level, 8*l.* per fm. All other bargains are without any alteration since our last report. The building of the engine-house is completed, and the masons are preparing the slate for the roof. The cutting down of the western shaft, and all other necessary work, is being pushed on with all possible speed.

PERRAN UNITED.—P. Floyd, B. Gundrey, May 13: Wheal Drum shaft is now, opened, and a tackle fixed on it. We intend driving a 10 fm. level north and south which cannot fail of intersecting Trenow Cousols and Carn Perran lodes in a very short distance driving. This is west of Old Wheal Neptune great cross-course, and parallel to Old Wheal Neptune and Wheal Charlotte richest deposits of copper. It is quite a virgin piece of ground, full 500 fathoms in length, with different other lodes both north and south. In driving on the lodes westward from the valley the ground rises fast, being a hill of greenstone, which in the neighbouring mines on the lode passing through and near these channels of beds of greenstone have been very productive. The water charges will be very easy; it is a good sett in length, and we well know there is a good course of copper in the old mine east of us, and extending west going down, which will be easily drained with a 40 or 50-inch cylinder engine. In our next report we hope to have cut the lode, and to give particulars of its appearance and size.

PRINCE OF WALES (Tin and Copper).—Capt. Giffard, May 14: The new shaft on the Drake Walls branches or lode is cut down and made good 6 fathoms from surface, and we hope to complete it to the bottom, 16 fathoms, in four weeks from this date, when we shall want a horse-whim, rope, and two kibbles.—Good Luck Lode: We are driving the deep adit by the side of the lode, as the ground is much easier for driving. There is a cross-course about 15 to 18 fathoms in advance of the present end, where, from the appearance of the level above, we may reasonably expect a change both in the ground and lode for the better. The tributors in the tin pitch have holed their ground, and will commence taking down the lode in a few days, when we shall begin to stamp the work to prove its value.—South Lode: The tributers have a very kindly lode in the shallow adit west, but not enough has been done yet to speak of its value.

PROSPER UNITED.—S. Lean, W. Millett, May 14: The ground in Louisa's diagonal shaft, sinking below the 60 fm. level, is favourable; we shall complete it to the 70 by the end of the present month. The lode in the 60 fm. level west is still disordered by a horse of killas, containing occasional stones of yellow copper ore, but not sufficient to value. The lode in the 60 fm. level east is large and promising, yielding 1 ton of ore per fathom. The lode in the 60 fm. level, east of Hill's shaft, is small and unproductive. The lode in the 60 fm. level, west of Hill's shaft, is 3 feet wide, and worth 6*l.* per fathom for tin. The lode in the 50, west of Hill's shaft, is 5 feet wide, and will produce 1½ ton of ore per fathom. We have commenced sinking a winze below this level, here the lode will produce 2 tons of ore per fathom. The lode in the winze, sinking below the 50, west of Hill's shaft, is 2 feet wide, producing saving work for tin. The lode in the winze, sinking below the 50, east of Hill's shaft, is disordered, being near the point of the horse. The lode in the 30, west of Hand's shaft, is from 18 inches to 2 feet wide, and of a most promising appearance. The ground in Hosking's engine-shaft, sinking below the 70, is a little more favourable. The lode in the 50 and 60 fm. levels, east of this shaft, is without alteration since our last report.

RHAFNA.—M. Wanley, May 14: The prospects of this mine are continuing good The old level clearing to sink a shaft on the south lode to communicate to C level is showing stronger indications of success than anticipated, the lode producing fine lumps of ore. The ground in C level has also improved for driving, and is producing a good quantity of ore. The D level is rather harder for driving, and the work up further in the hill ground looks better. I have, therefore, removed the hands to work at the most important points. The ore ground is opening up so well that we may soon be looking out for a crusher, if returns are desired as soon as they could be made. I can again repeat that it is rare to meet a new speculation looking so prosperous.

RHOSWYDOL AND BACHEIDDON.—E. Davies, May 12: The Cambrian foundry were unfortunate in their first casting of the driving-wheel for our drawing-machine; it broke, and, therefore, took them further time. The wheel was about ¼ ton weight; it has now been properly fixed, and at work since Friday. The 43 cross-cut is now being resumed. I shall send intelligence of the lode being cut immediately we do so.

ROARING WATER.—Capt. Thomas, May 11: In bringing up a deeper stope to unwater the old workings on Grady's lode, we have a large lode, well mixed with purple and rich green carbonate of copper; this lode is from 2 to 3 ft. wide, of the most flattering appearance. On the Orchard lode, driving east, the lode is getting out of the influence of the slide, and I expect shortly, from appearances, we shall have a good orey lode. The rise from the back of the caunter adit, on Grady's lode, is holed to surface north of the lode.

ROSEWALL HILL AND RANSOM UNITED.—E. Thomas, May 12: The lode in the 80 end, east of Ransom, is looking well, now 3 ft. wide, and worth 25*l.* to 30*l.* per fathom. The lode in the stopes in bottom of this level is looking better than when last reported on. Other parts of the mine are looking much the same as for some time past.

ROSEWARNE CONSOLS.—T. Uren, J. Berryman, May 13: The following tutwork bargains and tribute pitches were set on Saturday last:—Ellen's shaft to sink below the 60, by six men, at 9*l.* per fm.; the lode is 18 in. wide, producing stones of ore. The 60 to drive west from Ellen's, by four men, at 40*s.* per fm.; the lode is at present poor; the same level to drive east from the above shaft, by two men, at 40*s.* per fm.; the lode is 12 in. wide, producing a little ore, but not to value. The 40 cross-cut to drive south from Ellen's shaft, by four men, at 42*s.* per fm. The 30 to drive east of No. 2 cross-course, by four men, at 60*s.* per fm.; the lode is 18 in. wide, worth 10*l.* per fm. The 40 to drive west from engine-shaft, by two men, at 40*s.* per fm.; the lode is 12 inches wide, unproductive. The engine-shaft is down 5 fms. below the 40, ground good for progress; the lode at this shaft is split into two branches, each branch containing ore, but not to value.—Tribute Department: No. 1 pitch in back of the 60, west of Ellen's set, to four men, at 3*s.* 6*d.* in 1*l.*; No. 2, in back of the 50, west of Ellen's, to four men, at 2*s.*; No. 3, in back of the same level, to two men, at 10*s.*; No. 4, in back of the 50, east of Ellen's, to two men, at 12*s.*; No. 5, in back of the 40, east of Ellen's, to two men, at 12*s.*; No. 6, in back of the 40, east of No. 1 cross-course, to four men, at 8*s.*; No. 7, in back of the 30, east of No. 1 cross-course, to four men, at 7*s.*

ROYALTON.—Thos. Parkyn, May 14: We have a black lode come in our new shaft which is very rich indeed for tin at present—the tin has all passed through the stone. We are now engaged in cutting through the lode and I will advise you when we have done so as to its size, quality, &c., which at present I am unable to state. I should state that this lode is caunting our great lode—it is not a parallel lode. We are raising some splendid good stones of tin.

SORTRIDGE CONSOLS.—J. Richards, May 13: In the 50, west of the ventilating shaft, the lode is cut through, and proves to be full 9 feet wide, composed of an abundance of mundic, peach, capel, quartz, prian, and a small proportion of copper ore; the men are now turned to drive west on its course, on the south or foot-wall thereof. The 50, west of Mayne's cross-cut, on No. 2 south lode, is resumed, in which the lode is 2 ft. wide, consisting of capel, mundic, and a little ore. Williams's rise, in the back of the 50, west of Mayne's cross-cut, on No. 2 south lode, is up 12 fms., and is suspended until the 40 above is communicated therewith; the lode is from 18 in. to 2 feet wide, composed of capel, mundic, quartz, and good stones of ore. In the 40, west of John's cross-cut, on No. 2 south lode, the lode is 2 feet wide, and very promising, being composed of capel, quartz, mundic, and ore, and worth 13½ ton per fm. Rodda's winze below the 30, west of the engine-shaft, on the main lode, is communicated with Gilbert's rise, in the back of the 40 below; the lode is 3 feet wide, composed chiefly of capel and gossan, with a small proportion of copper ore. In the 40 east, and east of Gilbert's cross-cut, on No 1 tin lode, the lode yields good stones of tin ore. In the 40, east of Gilbert's cross-cut, on No. 1 tin lode, the lode is 3 feet wide, and yields tin ore equal to 15*l.* per fm., and is promising. In Pellow's cross-cut in the 30, west of the eastern shaft, No. 1 tin lode is intersected and cut through; it is 2½ feet wide, and some good stones of tin ore have been obtained; the drivage is turned east, on the course of the lode, and will be pushed on as fast as possible. A new cross-cut has this day been commenced in the 50, about 13 fms. east of the eastern shaft, for intersection on No. 1 tin lode, which will be pushed on as fast as the nature of the work will admit, as it is very important this lode should be laid open as quickly as possible, being hitherto orey at every point intersected.

SOUTH CARADON WHEAL HOOPER.—W. C. Cock, May 9: The ground in the 90 cross-cut north appears slightly improved since my last report; it is not quite so hard, and of rather freer cleavage.

SOUTH CARN BREA.—T. Glanville, May 9: Tutwork Setting for May:—The new shaft to sink below the 88 by nine men, at 20*l.* per fm. The 108 fm. level cross-cut to drive north of the flat-rod shaft by six men, at 12*l.* per fm. The stopes in back of the 108 by six men, at 5*s.* per ton. The 88 fm. level cross-cut to drive north of the new shaft by four men, at 9*l.* per fm. The 78 fm. level cross-cut to drive north of the new shaft, by four men, at 9*l.* per fm. The 68 to drive west of the cross-cut by four men, at 12*l.* per fm. The 68 to drive east of the cross-cut, on the north lode, by four men, at 7*l.* 10 per fm. The rise in back of the 68, on north lode, by four men, at 6*l.* per fm. The winze to sink below the 68 by two men, at 6*l.* per fm. The 68 to drive east of the new shaft by six men, at 5*l.* per fm. The 58 to drive east of the new shaft by six men, at 6*l.* 10*s.* per fm. The rise in back of the 58, east of the new shaft, by two men, at 5*l.* per fm. The 58 cross-cut to drive north of the new shaft by four men, at 6*l.* per fm. The winze to sink below the adit level by two men, at 6*l.* per fm. The mine is looking much as usual.

SOUTH CRENVER.—E. Chegwin, May 12: In the 124, driving west of flat-rod shaft, the lode is 3 ft. wide, producing 2¼ tons of copper ore, worth 12*l.* 10*s.* per fm., and the ground a little more favourable for driving. In the 124, driving east of flat-rod shaft, the lode is 1½ ft. wide, producing stones of copper ore, and ground favourable for driving. In the 105, driving east of flat-rod shaft, the lode is 3 ft. wide, producing 2 tons of copper ore, worth 11*l.* per fm., and the ground spare for driving. In the 105, driving west of flat-rod shaft, the lode is 2½ ft. wide, producing 2 tons of copper ore, worth 7*l.* 10*s.* per fm., and the ground a little more favourable for driving. Our stope pitches are much as last reported on.

SOUTH DARREN.—J. Boundy, May 12: The lode in the 80 east is from 4 to 5 feet wide; the part being carried contains a dark clay-slate, copper, carbonate of lime, and lead ore, valued for the latter 10 cwts. per fathom, with a very promising appearance. The lode in the 70 east is 2½ feet wide, producing good stones of lead ore; this is looking very kindly for an improvement soon. The lode in the 60 east is 3 feet wide, yielding fair dressing work; an early improvement may be expected at this important point soon. We have holed the 50 east to the rise over the 60 east, which has well ventilated the 50 and 60 fm. levels, and have resumed the 50 east, where the lode is 2 feet wide, of a promising character. The lode in the 30 west is still very wide, and orey throughout, valued at 12 cwts. ore per fathom. This I consider an important point, and from present appearance is likely to lay open some profitable ground, being extended in whole ground. Other parts of the mine are much the same as when last reported.

SOUTH DOLCOATH AND CARNARTHEN CONSOLS.—W. Roberts, May 13: In the rise in back of the 50, on the caunter, against the flat-rod shaft, the lode is 2 ft. wide, producing rich stones of ore, all dressing work. In the flat-rod shaft, sinking under the 12, no lode has been taken down in the past week.

SOUTH WHEAL TOLGUS.—May 13: Youren's Lode: The lode in the 140 west is 18 in. wide, consisting chiefly of mundic. In the 140 south the ground is rather hard. The lode in the 130 west is 20 in. wide, producing 3¼ tons of ore per fathom. We have three stopes over the back of the above-mentioned level, each stope yielding 3 tons of ore per fm. In the 120 west the lode is small, and the ground hard. The lode in the 110 west is 3½ ft. wide, consisting of peach, mundic, spar, white iron, and good stones of ore—a strong fine looking lode. The stope over the back of the 110 west is yielding 3 tons of ore per fm. In the 100 west the lode is small and unproductive. The lode in the 90 west is looking better; it is 20 in. wide, producing fine stones of ore. The lode in the 78 west is small and unproductive.—South Lode: In the 130 east the lode is 18 in. wide, yielding 1 ton of ore per fm. The lode in the 120 east is 8 ft. wide, yielding 3 tons of ore per fm. In the 110 east the lode is 2 ft. wide, unproductive. The stope over the back of the 110 east yields 4 tons of ore per fm.

ST. DAVID'S (Gold).—T. Faull, May 13: By way of report, I beg to inform you that Mr. Searby was here on Friday last, and was very much pleased with our plan of working, being resolved, through the assistance of the directors, to give the mine a fair and impartial trial. Should such a wise resolve be carried into effect, I have not the least doubt of success, and the mine in turning out to be a paying property. We have six well-defined and known lodes to operate upon, three of which are of the most promising, the very essence of gold-bearing quartz; but what can be expected at such a shallow depth? I am sure we have seen enough at surface to warrant a vigorous prosecution of the mine. I see, by last week's Journal, Mr. Mosheimer is advocating deep mining, not at all less than 200 feet. Now, this is how it should be. I am certain, if his practical suggestions were put into execution, it would be the means of opening up some good and valuable mines. There is no doubt but what the mountains in this district contain lodes pregnant with minerals of the richest kind; but hitherto mining has been carried on similar to searching on the deck of a vessel for a valuable cargo hidden below. I can bear testimony to the profitable results of deep quartz mining in California, and sincerely hope operations in a like manner will be carried on in Wales, attended with the same satisfactory and profitable results.

ST. DAY UNITED.—E. Ralph, May 9: The prospects in these mines are looking very well. We hope to send

in a few weeks to have this shaft, with the skip-road, to the bottom of the mine. In clearing the 40 fm. level, east from this shaft, we have holed, and can now go from it to the East Buck shaft, a distance of over 200 fms.; in this level we found a long run of tribute ground. We have also holed through the deep adit, and can go 300 fms. in the level, in the back of which there is a great quantity of tinstuff, which, if required, would last working for years at a profit, but from the great quantity of tin ground we are discovering, I think we shall soon be breaking us much tinstuff as our stamps can return. I have taken more particular notice of the copper lode in the 40 fathom level, west of engine-shaft, and the tin lodes east, and have no doubt when we have the steam-whim to work at the engine-shaft, to be returning tin and copper from here at a good profit. In driving the 20, east of the Red Dipper shaft, we have good tin ground, and also a good branch of tin on Wheal Venton lode, in the 20, east from Wheal Owl. The mines are looking well. We have commenced raising the stone for the new whim engine-house, and no time will be lost in getting it in order.

TAMAR SILVER-LEAD.—T. Foote, May 13: We have not taken down any lode in either of the bargains since last reported on. Eden's winze, in bottom of the 226, is down to the 237, and we have commenced driving north to meet the 237 end south, the end not being home to the winze. We have commenced rising in back of the 215 south, to prove the lode in that direction, but have not taken down any of the lode yet.

TOLVADDEN.—*Special Report*: John Nancarrow, May 5 (per favour of Mr. William Lelean): The engine-shaft is sunk to the 93 fathom level; it takes off from the lode at the 40 fathom level, and is sunk below on the flookan; the lode is reached in the lower levels by cross-cuts from the engine-shaft. Gundry's shaft is 40 fathoms west, and is sunk to the 67 fathom level. The 20 is driven east of engine-shaft 58 fathoms; lode large, but unproductive. There is a cross-cut driving north at the 40, 9 fms. west of Gundry's shaft; it is in 13½ fms., and is to be driven 7 fms. further to reach the north lode; this lode is only seen 16 fms. from surface, where it is composed of gossan, spar, peach, &c., and said to be promising. The 50 is driven east of shaft 95 fms.; the last 2 fms. have yielded about 1 ton of ore per fm.; one pitch in the back and one in the bottom; the ore ground above this is nearly worked out. The 60 is driven 86 fms. east of shaft; the lode in the end is large, yields a little ore, and looks very promising; neither this nor any of the upper levels have been driven west for the last 18 months. The 67 is driven 73 fms. west of sump; lode cut through in several places, which are all poor, except near Gundry's shaft, where the lode is 12 ft. wide, with an orey leader 1½ foot wide, but nothing is done except the level driven across the lode, which, from its appearance, deserves to be opened upon; near the cross-cut there is one pitch in the back set at 13s. 4d., and one in the bottom at 10s. in 1l. The 67 is extended east of shaft 56 fms.; the end is being driven on the south or flookan part of the lode, which yields a little lead; 2½ tons have been sold from the last 4 fms. driving; it has to be driven 10 fms. to reach the ore ground gone down below the 60, where the lode for 8 fms. long was worth 1½ ton per fathom; this level has been generally hard, and for the last 50 fms. has not yielded much copper ore. Near the shaft there is a pitch in the back at 10s. 6d., and one in the bottom at 12s. in 1l., where the lode is worth 15l. per fathom. The 77 is driven 3½ fms. east of cross-cut, and 7½ fms. west. The east end is poor. The west end will yield 1 ton of ore per fm.; neither of these ends are driving, as the next level is only 6 fms. below, and the ends are extended beyond these; the ore in this level is 9 fms. long, and may extend further west. There are 6 fms. stoped in the bottom, now working at 8s. in 1l., worth 14l. per fathom; the ore is grey and yellow, mixed; the back is working at 10s. in 1l. The 83 is driven west 16 fm.; ore came in about 4 fms. from the cross-cut, and continued nearly to the end, where the lode is 4 ft. wide, and now poor; the lode for 12 fms. long yielded 2 tons per fm. There are 2 fms. stoped in the back and 1 fm. in the bottom, where the lode is quite as good as it was in driving. There is a winze sinking 8 fms. west of cross-cut, on the flookan or south part of the lode, which is down 2 fms.; the orey part of the lode is standing to the north; here, too, the ore is grey and yellow, and is evidently dipping west. The 83 is driven east 23 fms. on the flookan part of the lode; the north part is cut through opposite the cross-cut, and two places further east, but is in every place poor: 19 fathoms from cross-cut the lode began to change its character, became softer, with more prian and good stones of grey and yellow ore, sometimes a regular leader, which for the last 4 fms. has yielded 1¼ ton per fm.; the lode now in the end is 5 ft. wide, composed of quartz, prian, peach, ore, &c., looks well, and will yield about 1 ton of ore per fathom; this ore also appears to dip west; the lode in this end is softer, and altogether looks much better than in the 60 and 67. At the 93 there is a cross-cut driven north 6½ fms. to the lode, which is cut into 5 ft., and so far as seen is composed of flookan, iron, quartz, and capel; it has a reddish appearance, and looks better than in the level over, but the north or ore-bearing part of the lode is not yet reached; and while this should be cut through at once, I strongly recommend the driving of the 93 east and west with a full number of hands as fast as possible; by doing this I think the western run of ore may be reached in a month, and the eastern one in two months, soon after which ore may be taken away to assist the returns. At Wheal Down (which is 120 fms. east of sump) the shaft is cleared and secured 19 fms. below the adit, and expect to get to the bottom to-morrow. There is a winze sunk 15 fms. below the adit, which has yielded a little ore for the whole depth, sometimes 1½ ton per fm.; the lode in bottom of the winze is 6 ft. wide, yielding stones of ore. There were at least 50 tons of ore broken about this shaft at the adit, and in this part of the mine tribute ground is being laid open. The average tribute is 10s. 6d. in 1l. The number of hands employed is 120. The cost from the present operations may be taken at 400*l.* per month, and the returns at 250*l.* per month. Looking at the ore gone down in the 85 west, and the great improvement in the general character of the lode in the 83 east, I consider the prospects in the bottom of the mine are cheering, and think a rapid development of the 93 will soon be attended by good results, and place the mine in a better position.

TRELOWETH.—T. Richards, May 14: In sinking the engine-shaft below the 154 the lode contains more copper ore, and the appearance generally is of an improved character. The lode in the 154 end west is worth 8*l.* per fm. The 144 end, east of the sump-winze, is worth 20*l.* per fm. The 134 end has a very promising appearance for mineral. In Carr's shaft we are driving west for a plat 15 fms. from surface. Nothing further to notice since the setting report.

TREWEATHA.—T. Foote, J. Scoble, May 14: The 40 cross-cut west has been driven 11 ft., and south, on the course of the lode, 6 ft. The lode in the ends, both north and south, is 3 feet wide, carrying a leader producing 12 cwts. of lead per fm., and is very much improved in character and productiveness to what it was in the level above. We have set to drive north as well as south. The ground in the 30 south, Tye level, is favourable for driving, and we are making good progress. The rise in back of this level is being put up for ventilation. The stopes in the back of this level yield 4 and 3 cwts. of lead per fathom. The water in the old mine is still sinking slowly. We sold, on the 12th inst., 12 tons of ore, at 23*l.* 8*s.* per ton.

TRIMLEY HALL.—T. P. Thomas, May 13: In sinking the engine-shaft under the adit we have met with a great deal of water coming from the bottom of the shaft which is draining the former sump, which I think a very good indication for a good lode when we intersect it. We have dialled the ground, and find we can bring in water sufficient to supply a water-wheel that will carry us down a considerable depth and crush our ore; in fact, do away with steam altogether.

TRUMPET UNITED.—G. R. Odgers, May 9: The shaftmen will resume the sinking of the engine-shaft below the 50 next week. The lode in the 50 west is 8 in. wide, of peach and spar, with a little tin, and letting out water—a kindly lode. The lode in the 38 west is 6 in. wide, and yielding saving work for tin—a most promising lode. The lode in the 25 west is 1 ft. wide, producing good work for tin, and looking kindly, worth 6*l.* per fm. The lode in the 15 west is 6 in. wide, improving, worth 3*l.* per fathom. The lode in the winze sinking below the 15 west is 1 ft. wide, and worth 12*l.* per fm. The lode in the stope above the 15 west is worth 8*l.* per fm. We are engaged clearing up an old working to the west of the flat-rod shaft, and where the ancient miners must have raised some tin.

TYDDYNGLWADIS (SILVER-LEAD AND GOLD).—G. Williams, May 11: At the adit we are now busy cutting the footwall. We are also putting up a new stull over the proposed winze, which is to be called No. 4 winze. At No. 2 adit the progress in driving is 3 ft.; lode much the same in size and richness.

TYNE HEAD.—G. Millican, May 9: We have reached the limestone with the rise into Sir John's vein, and shall now cut across to the east cheek of the vein. We have a very large vein, intermixed with very pretty spar and some lead ore; I hope to find the latter more collected into a rib or course of ore soon. The lead in this vein is rich in silver.

TYWARNHAILE.—J. Nicholls, J. Daw, T. Hampton, May 13: The 100, east of Gardiner's, is not looking so well, worth 5 tons of copper ore per fm. The 90, east of Bennett's, will yield full 2 tons of ore per fm. The 80, east of Bennett's, is producing about 1½ ton of low-priced ore per fm. James's shaft will produce full 3 tons of ore per fm. for length of shaft. Haynes's shaft is without change; the same remark applies to all other parts of the mine.

UNITED DOLFRWYNOGS (GOLD AND COPPER).—G. Williams, May 11: Buarthral Mine: The lode has improved since my last in size, and looks more favourable.—Penbryn Mine: In the cross-cut the progress in driving is 2 fathoms 3 feet. No change since my last.

VALE OF TOWY.—A. Waters, T. Harvey, May 12: In the 124, driving south of Clay's engine-shaft, there is no change to notice since last week. The blende pitch in back of the 110, south of cross-course, continues to look well, and is set at 15s. per ton. We have three blende pitches in back of the 100, let at tributes varying from 25s. to 30s. per ton, and one pitch in back of 90, south of Clay's, at 30s. per ton of blende, tributers paying all cost, including dressing. We have let the backs of the 100 and the 90, south of Clay's shaft, at per ton of barytes. The 50, north of slide, on Derrick's lode, is improved; lode now 18 in. wide, yielding good stones of lead ore. In the 40, north of slide, the said lode is 2½ ft. wide, yielding saving work for lead ore. In the 20, north of Bonville's, the Derrick lode is 18 in. wide, of a very promising character, and now yielding some rich lead stuff. In the adit south of Nant's the lode is opening, and water evidently from the old workings, flowing into our level; the ground is now more favourable for progress than for a long time past. We have weighed 50 tons nett of best quality blende, which will be forwarded as soon as we have agreed with the South Wales Railway Company about rate of carriage. We have forwarded, per *Aurora*, a cargo of barytes, and we are now shipping another lot, per *Active*.

WEST BASSET.—W. Roberts, May 13: In the 114 west the lode is 3½ ft. wide, having a promising appearance, and producing 1 ton of ore per fm. In the rise in back of the same level the lode is 3 ft. wide, producing good stones of ore—tribute ground. The 104 east produces 3½ tons of ore per fm.; lode 4 ft. wide. In the 84 west the lode is 3 ft. wide, orey throughout—good tribute ground. In the 30 east the lode is 1 ft. wide—tribute ground; in the same level west the lode continues 3 ft. wide, producing stones of ore. In other parts there is no alteration to notice since last reported.

WEST CONDURROW.—F. Gilbert, May 14: The lode in the engine-shaft is 2 feet wide, consisting of spar and peach, and impregnated with mundic; this shaft is sunk 5 fms. below the 50 fm. level. The lode in the 50 fm. level, driving west of the above shaft, is 20 inches wide, having more spar and less flookan than when last reported. The 36 fm. level is extended 60 fms. east of Purser's shaft, and within 5 fms. of the perpendicular of the tin ground in the 24 fm. level; the lode in the present end is 20 inches wide, composed of peach and decomposed granite. The stope in the back of the 24 fm. level, east of Purser's shaft, is worth for tin 10*l.* per fathom. The lode in the winze, sinking below this level, is 18 inches wide, the first 6 feet in sinking produced a little tin, but at present is poor. In driving the 12 fm. level, west of engine-shaft, we have intersected the cross-course, where we intend driving north 3 fms., then putting these men to rise to facilitate the holing of Bennet's shaft, at the 12 fm. level, as the sinking of this shaft will be of great advantage in opening up the western part of the mine. In driving the 36 cross-cut south we have recently met with the granite, which is hard and more spare for driving.

WEST DEVON.—J. Donnal, May 13: The lode in the 50, east of south engine-shaft, is still about 1½ ft. wide, composed of capel, mundic, quartz, and stones of yellow copper ore, and the water issuing freely from the end. There is a branch come in from the south side about 4 in. wide, which will fall in with the lode in about 5 or 6 ft. further driving; it consists of mundic, quartz, and spots of copper ore; there is a probability of its making an improvement in the lode. The tribute pitch is looking much the same. The men are working well, and earning fair wages.

WEST DRAKE WALLS.—T. Gregory, May 14: The lode recently discovered here appears to be very large, and in order to prove the size and bearing of it we shall drive an adit on its course. We continue the shoding north, in search of other lodes, which are said to be near our present operations.

WEST GREAT WORK.—S. J. Reed, May 12: The new lode, driving east from Paull's shaft, is about 1 ft. wide, and worth 7*l.* per fm. for tin, with favourable indications. This lode, west from said shaft, is improved, and now producing good tinstuff. The rise on Acre lode is worth 5*l.* per fm. In the cross-cut south from Tin shaft we have discovered a branch containing tin, but from its declination, I think is a dropper to another lode a little further south.

WEST PAR CONSOLS.—W. Woolcock, May 14: On Saturday last the following bargains were taken:—The 65 end to drive east of Dawkes's shaft by four men, at 4*l.* 4*s.* per fathom, 2 fathoms stent; the lode is 2 feet wide, producing occasionally good stones of tin. The men will drive this end until the level can be cleared of attle, when I intend to put them to stope in the back about 3 fathoms behind the present end, where the lode when driven through was worth 10*l.* per fathom. The 30 end to drive west of same shaft by four men, at 4*l.* 5*s.* per fathom, 2 fathoms stent; the lode here is 2 feet wide, producing tin, and looking favourable for further improvements as we near the cross-course. We shall resume the eastern end at this level as soon as the attle can be cleared. The water is in fork at the bottom, and we have commenced to sink Dawkes's shaft below the 65. We shall not put the rods to work for a few days, as we have taken up the water from the bottom level, which will enable us to sink for a few days without the aid of the lift. The tribute department is not looking so well as when last reported.

WEST SHARP TOR.—W. Richards, May 12: We are not yet clear of the floors of capel in the 162 east. The part of the lode being carried is of the same character as for some weeks past; water issues strongly from the end, and we expect an improvement in the ground shortly. The part of the lode being carried in the 162 west continues to produce some rich quality grey and copper ore occasionally. The ground in the adit level is killas of a favourable character, and a little over 3 fathoms per week is driven.

WEST WHEAL TOLGUS.—May 13: Taylor's shaftmen are getting on with the sinking of Taylor's engine-shaft pretty well. The lode in the winze sinking below the 52 yields 3 tons of ore per fm. The ground in the 50 fm. level is moderately easy. We have resumed the driving of the 65 fm. level; the lode is 2½ ft. wide, yielding 3 tons of ore per fathom.

WEST WHEAL TREVELYAN.—J. Harris, May 9: We have made good progress with the sinking of Charles's shaft this week; the lode is 2 ft. wide, composed of quartz, iron, and prian, with stones of ore; although not enough to value, yet a kindly lode. We have not taken down any lode in the sump-winze this week. The lode in the 58 end west has very much improved: it is between 2 and 3 ft. wide, 15 in. of which is good ore, worth 2 tons, or 12*l.* per fm.; this is a pleasing feature. The winze sinking below the 48 west is worth 1 ton. The lode in the stope, west of Cater's shaft, is worth 4*l.* per fathom. The lode in the stope above the 58 fm. level, west of Charles's shaft, is worth 5*l.* per fathom.

WHEAL AGAR.—W. Roberts, May 13: In the 100 west the lode is 3 ft. wide, saving work for tin. The rise in back of the same level produces good stones of ore; lode 3 ft. wide. In the 100 west the lode is 2 ft. wide, producing tin throughout. In the 90 west the lode is 1½ ft. wide, with good stones of ore. In the 80 east the lode is 1½ ft. wide, producing good stones of ore. The 70 west produces stones of ore; lode 2 ft. wide. At the western engine-shaft the cross-cuts at the 90 are progressing favourably.

WHEAL ARTHUR.—T. Carpenter, May 14: Old Lode: The lode in the 60 fathom level west, below adit, is 4 feet wide, consisting of spar, capel, mundic, and stones of copper ore; the lode in the 10 fm. level west is 2 feet wide, yielding stones of copper ore; the lode in Hill's stope, in bottom of 50 west, is 4 ft. wide, composed of spar, capel, mundic, and copper ore, worth of the latter 10*l.* per fathom.—Edward Lode: The lode in Prout's rise, and stope in back of 50 east is 4 ft. wide, consisting of spar, mundic, gossan, and copper ore, worth of the latter 12*l.* per fm. We have no particular change in any other part of the mine to notice.

WHEAL BASSET AND GRYLLS.—J. B. Wilkin, Walter Harris, W. Oats, May 11: During the past month Wheal Fat shaft, sinking below the 40, has been sunk 1 fm. 3 ft. 3 in.; the lode in the shaft is impregnated with mundic, and producing stones of tin; set to sink by nine men, at 30*l.* per fm. The 40, west of Wheal Fat shaft, has been driven 1 fm. 5 ft. 3 in., and intersected a part of the caunter, which made an improvement in the lode, but we expect a further intersection and improvement in the coming month; set to drive by six men, at 12*l.* per fm. The 40, east of Wheal Fat shaft, has been driven 3 fms. 1 ft. 9 in.; the lode is worth from 12*l.* to 15*l.* per fm. A rise has been set in this level to six men, at 12*l.* per fm. A riso in the back of the same level has been risen 5 ft. 6 in., opening tribute ground; this rise is not set, as we have bored a hole to it in a winze from the level above, and this ground will be beaten through on tribute. The 40 west, on the north part of the caunter, has been driven 5 ft. 9 in., opening tribute ground; set to drive by four men, at 9*l.* per fm. A rise in the back of the 30, on Fergusson's lode, has been risen 3 fms., and communicated to the level above, opening ground that is set at 6s. 8d. in 1l. The 23 east, on Fergusson's, has improved (the tributers having opened on the south part of the lode), and is set to drive by two men, at 2*l.* per fm., and 13s. 4d. tribute. Tyacke's engine-shaft has been sunk 1 fm. 2 ft. 10 in., and is now 11 fms. 3 ft. below the 34 fathom level. We intend to fix the large plunger-lift in this shaft during the present month. The cross-cut south of Tyacke's shaft, in the 34, has been communicated to the 30, west of Wilkin's shaft, thereby improving the ventilation, and opening some tribute ground; set to drive west, by six men, at 6*l.* per fm. The same level is set to drive east and west on Tymorgie lode, by four men, at 4*l.* per fathom, and 10s. tribute; the lode is worth 8*l.* per fm. The 34, east of Tyacke's shaft, on Tyacke's lode, has been driven 4 ft. 3 in.; the lode is large, and opening tribute ground; set to drive by six men, at 6*l.* per fathom. The same level west has been driven 1 fm. 5 ft. 3 in.; the lode is improving; set to drive by four men, at 7*l.* per fm. The adit level east, and north of Tyacke's shaft, has been cleared and secured 12 fms., in which we have discovered Richards's lode, 2 ft. wide (the same lode seen at Richards's shaft); the former workers have taken away most of it at the adit level. The adit is now going north, and will most likely bring other lodes in sight this month. Wilkin's shaft, sinking below the 40, has been sunk 1 fm. 4 ft. 9 in.; set to sink by nine men, at 20*l.* per fm. The 40, west of Wilkin's shaft, has been driven 4 fms. 4 ft., opening tribute ground; set to drive by six men, at 6*l.* per fathom. The same level east has been driven 5 fathoms 2 feet 6 inches; the lode is poor, but improving; set to drive by six men, at 5*l.* per fm. Gundry's shaft has been completed to the 30, and a plat cut; set to sink by six men; the lode in the shaft is worth 25*l.* per fm. for length of shaft, which is 9 ft. The 30, east of Gundry's shaft, has been driven 4 fms. 5 ft. 6 in., opening tribute ground, and improving; set to drive by six men, at 3*l.* 10s. per fm. Richards's shaft has been sunk below the surface about 9 fms., and the adit level cleared 11 fms. The lode in the adit yielded some low-price tinstuff, and was set on tribute, but the former workers have taken most of the tin from that level, and as the shaft is down to water, we have suspended this part until the 30 fm. level, east of Gundry's, shall unwater it. The stopes east of Tyacke's and Gundry's are now set on tribute. Number of tutworkmen, 97; tributers, 70; spallers, 7 men and 2 girls; smiths, carpenters, enginemen, and surface men, 32; landers and fillers, 15; dressing tin, 5 men, 64 boys, 71 girls: total, 363.

WHEAL CARADON.—F. Pryor, J. Brown, May 9: We have sunk during the past month 9 feet in Cruttwell's engine-shaft, in which the lode is 5 feet wide, but not quite so good as last reported, the same being split up in branches, but is still producing fine stones of yellow copper ore. We are of opinion these branches will shortly unite again, and make the lode more valuable than it has hitherto been. The price for sinking by nine men is 27*l.* per fathom until the shaft reaches the 60. The sinking of the trial shaft, on Mary's lode, has also been very satisfactory; 3 fms. 2 ft. 6 in. have been sunk this month, and the lode is showing an improved appearance. In the footwall, or north side, the lode is 1 foot wide, composed of quartz, spotted with ore; in the south side there is a very regular branch, containing good stones of lead. With these indications, and in such a beautiful channel of ground, we are induced to believe that good results will shortly follow in depth; set to nine men, at 14*l.* per fm. The bob-stand and balance-bob are all completed, and will be attached to the engine on Monday next. It will not only regulate the working of the engine, but greatly reduce the consumption of coals.

WHEAL CREBOR.—Capt. Gifford, May 12: We shall commence working in the bottom of the shaft to-night, and shall begin to drive east and west in a few days, where we have a splendid lode going east, worth 7 tons per fm., or 35*l.*; west end worth 3 to 4 tons per fm., or 12*l.* In the 72 east we broke a good pile of work to-night, yielding more than 2 tons per fathom, but in the present end it is not quite so good, owing to its being to the point of two splices; the lode is full 3 ft. wide, and I feel confident the next time it is taken down it will be found quite as good as last reported—2 tons per fathom, although at present it is only worth from 1 to 1¼ ton.

WHEAL EDWARD.—George Rowe, May 9: The engine-shaft is sunk nearly 7 fms. below the 92, the lode in which is improving in size as we get off from the influence of the cross-course, it being 2½ ft. wide, spotted with ore. The 92 is extended a short distance west from the caunter, and a portion of the lode taken down, which is at this point small, and we calculate it will continue so for some 9 or 12 ft. further driving, or until we get off from the influence of the caunter lode. The lode in the 81 west is 3½ ft. wide, and showing a very kindly appearance, worth from 10*l.* to 12*l.* per fm. The lode in the stopes in back of this level is 7 ft. wide, yielding from 3 to 4 tons of ore per fm. The lode in the winze sinking below the 71 west is 5 ft. wide, worth 3 tons of ore per fathom. The cross-cut driving south in the 61 west is in a beautiful mineralised killas, and we calculate we have 2 or 3 fms. further to drive to intersect the main part of the lode, although there is not sufficient work done on that part gone off to ascertain the exact distance we may have to drive. The lode in the stopes in back of this level, and bottom of the 50, is worth from 25*l.* to 30*l.* per fathom, and going away west in whole ground. Wheal Arthur main or new lode, driving east from Bray's cross-cut, is 2½ ft. wide, worth 20*l.* per fm. The lode in the rise in back of this level is worth 45*l.* per fm. In the same level, driving west, the lode is disordered by the influence of a small cross-course; consequently, it is at this point unproductive, but, from present appearances, I am inclined to think it will shortly improve. Our monthly setting will be to-day, and I will send you particulars next week.

WHEAL GRENVILLE.—G. R. Odgers, Wm. Bennetts, May 9: The lode in the 129 west is 18 in. wide, producing stones of ore, but not enough to value. The ground in the cross-cut at the 110 is changing; it is becoming like the ground we have by the side of the ore in the 100, hence we look upon this very favourably. We have cut into the lode at the 100 west between 4 and 5 ft., and no north wall; from the samples we have vanned it produces good work for tin; we shall have a pile of it to sample, when we shall be able to test its value; so far as we can see it is a large, strong, and masterly lode, and letting out a quantity of water; this end is about 90 fathoms west of the new shaft, and should it prove to be that lode, it will evidently have laid open a great extent of tinny ground. The lode in the rise above the 100 will produce 1½ ton per fm. The lode in the 90 west will produce from 1 to 1½ ton per fm., and improving. There has been no lode taken down in the 80 west or rise above; we think the former will improve. The ground in the 66 west is improving.—New Lode: The lode in the shaft, below the 80, is from 3 to 4 ft. wide—a good bunch of tin, and worth full 40*l.* per fm. The lode in the tip-plat is looking much the same as we stated last week. The lode in the stope above the 80, east of cross-cut, is worth from 10*l.* to 15*l.* per fm. The ground in the 80 cross-cut is of a very congenial character, and we are constantly meeting with droppers—a favourable indication. The men are making good progress with the sinking of new shaft.

WHEAL GRYLLS.—Edward Rogers, May 14: Fisher's Lode: At Annie's engine-shaft we are getting on very well in fixing the plunger, and hope to have it finished in three days from this time, when we shall recommence sinking the engine-shaft. In the 30 fm. level, driving east of the flat-rod shaft, the lode is worth 4*l.* per fm. In the rise in the back of the 30 there has been no lode taken down since last reported on. In the winze in the bottom of the 19 the lode is worth 3*l.* per fm.—Georgia Lode: The engine-shaft is sunk 8 fms. 1 ft. below the 10; the lode is 3 ft. wide—unproductive. In the 10, driving north, the lode is small and poor. In the back of this level No. 1 stope is worth 60*l.* per fm., and No. 2 stope 25*l.* per fm. In the back of the 33 we have also two stopes working—one is worth 12*l.* per fm., and the other 10*l.* per fm. In our tribute department the men are getting wages at their respective tributes.

WHEAL HARRIETT.—S. Williams, May 9: The lode in the engine-shaft and 130 east end continues poor. The lode in the winze sinking below the 115 is worth 10*l.* per fathom. The ground in the 115 cross-cut is of the same character as for some time past. The lode in the stope, west from east winze, below the 100, is worth for tin 100*l.* per fm. The lode in the stope, east from west winze, below the 100, is worth for tin 15*l.* per fm. Alexander's lode, in the 12 end, is worth 5*l.* per fm. The lode in the adit end is poor. The stopes above and below the adit level are worth 8*l.* per fathom. In cutting down Alexander's shaft we are progressing favourably.

WHEAL HOPE.—W. H. Reynolds, May 12: The water is down to the 48, and we expect to be able to get into this level some time to-day. We are told that there is ground in the back of this level that will work at a lower tribute than any yet working, and we shall drain deeper levels as fast as possible, where we expect to find pitches that will work at tributes, and leave a good profit to the adventurers.

WHEAL KITTY (St. Agnes).—R. Pryor, sen., J. Nicholas, May 9: There is no change to notice east of engine-shaft, on the old lode, since our last report.—Holgate's Shaft: The 65, driving south, is worth 8*l.* per fm., and will, we believe, improve when it gets out of the influence of the heave. The rise in back of this level is communicated to the level above, and has given good ventilation to this end.—Pryor's Lode: The lode in the 54 east is worth 15*l.* per fm., and in this level, west of cross-cut, 12*l.* per fathom. The lode in the rise behind this end is also worth 12*l.* per fathom. The lode in the 44 fathom level, east of cross-cut, is worth 9*l.* per fathom, and is improving: in this level, west of ditto, the lode is worth 12*l.* per fm. We are still driving south in the 34, east of cross-cut, as we believe the main part of the lode is heaved in that direction by the slide. The lode in the rise putting up from the new shaft, in back of this level, has improved, now worth 18*l.* per fm. The lode in this level, west of cross-cut, is worth 10*l.* per fm. And in the rise in back of ditto 12*l.* per fm. The ground in the 24 cross-cut has improved. The ground in the new shaft has proved a little harder than we expected. We have now 12 hands engaged in the cutting down of this shaft, in consequence of our not being able to put another pare of men as we intended at the deep adit level, having no room for the stuff. Our levels have improved during the past week. We shall sell to-day from 16½ to 17 tons of tin.

WHEAL NORRIS.—W. Bagelhole, J. Andrews, May 9: At our monthly setting to-day the following bargains were let:—Cremorne engine-shaft to sink below the 45, by nine men, 3 fms., at 16*l.* per fm. The 45 to drive east on No. 4 lode, by two men, 2 fms., at 4*l.* per fm. The 35 end is not set; we shall set it on Monday next. The 15 cross-cut to drive south, by two men, 1 fm., at 10*l.* per fm.; the ground in this end is spare for driving. Carter's shaft to sink below the 25, by nine men, 2 fms., at 33*l.* per fm. The lode in the 25, east of Carter's shaft, is 2 ft. 6 in. wide, and worth for tin fully 17*l.* per fathom; set to drive by four men, 5 fms., at 3*l.* 10s. per fm. The 15 to drive east of Carter's shaft, on No. 3 lode; the lode in this end is 9 in. wide, worth 7*l.* per fm.; set to drive by four men, 3 fms., at 6*l.* per fm. We set the tribute pitch in back of the 15, on No. 3 lode, to four men, at 10s. in 1l. We have communicated the 15 winze with the 25, and it is of great service in ventilating this part of the mine.

WHEAL POLLARD.—W. C. Cock, May 9: We are making fair progress in sinking the engine-shaft; the ground is just the same as stated in my last report; the different parts of the lode are gradually nearing each other, and will probably unite in a fathom or two. In the eastern end of the shaft, where the branches are most rapidly converging, they are already showing an improved appearance.

WHEAL UNITY CONSOLS.—W. H. Reynolds, May 12: The hard spar still continues in the flat-rod shaft, but, upon the whole, the ground is better for sinking through. We have commenced driving the 30 west, by two men and two boys, where the lode is 12 or 15 in. wide, and made up of peach spar, &c., with small particles of copper in it, and having a kindly appearance. The new shaft is down 7 fms., and the lode is from 15 to 18 inches wide, of gossan, spar, &c. The engine lode, in the 40 east, is from 16 to 18 in. wide, and made up of iron, spar, &c., with spots of ore through it.

WHEAL UNION.—Thos. Glanville, May 8: Setting for May:—The flat-rod shaft to sink below the 76 by twelve men, at 36*l.* per fm. The 76 to drive east of the flat-rod shaft by two men, at 7*l.* 10s. per fathom. The 76 to drive west of the flat-rod shaft by four men, at 5*l.* per fm. The 30 cross-cut to drive south by two men, at 9*l.* per fm. The 40 to drive east of the eastern shaft by six men, at 7*l.* 10s. per fm. The 18 cross-cut to drive south on the cross-course, by four men, at 4*l.* 10s. per fm. The winze to sink below the 30 by six men, at 6*l.* per fathom.

WHEAL UNY.—S. Coade, M. Rogers, May 9: The lode in the 100, west of engine-shaft, is worth 15*l.* per fm. for tin. The 90, west of incline shaft, is worth 8*l.* per fm. The 80, west of incline shaft, is worth 5*l.* per fm.—Copper Lode: The 48, west of No. 3 shaft, is more spare for driving; now within 4 fms. of the new engine-shaft. The lode in the 58 west is 1 ft. wide, and of a promising character to improve. The lode in the 58 east is worth 12*l.* per fm. for copper ore. The new engine-shaft is sinking favourably, and have sunk through the lode intersected a fortnight since, and shall have to cross-cut north to intersect it at the 48.

WORVAS DOWNS.—R. Harry, May 13: We have cleared the winze below the 60 east about 4 fms., and hope to reach the bottom by the end of this week; the stopes in the back of this level are worth 25*l.* per fm. The winze below the 50 east is holed to the 60 stopes, and the men are now engaged stoping the ends of the same in a good tinny lode. In the winze sinking below the 40 north, on the caunter, the lode is 2 feet wide, yielding a fair quantity of tinstuff, worth 8*l.* per fathom. The lode in the winze sinking below the deep adit east, on the new south lode, is 15 in. wide, producing very rich work for tin, worth 10*l.* per fm., and improving as we go down. There is no other change to notice.

YARNER.—R. Barkell, May 13: The engine-shaft is down about 6 fms. below the 40; we have intersected several branches in sinking, all of which are dipping towards the lode; one of them is 4 in. wide, and the channel of ground is very congenial for copper. In the 40 west we have some small branches, but nothing to value. The 40 east is still poor. The two stopes at the back of the 40, east and west of shaft, are looking well; the western one is yielding fully 3 tons, and the eastern one fully 2 tons per fm. The machinery is working well.

## FOREIGN MINES.

PORT PHILLIP AND COLONIAL GOLD.—The directors have received by telegram from Suez the following, in anticipation of the Australian mail, from their resident director, Mr. Bland, at Melbourne, giving the result of the month of Feb. last:—Quantity of quartz crushed, 3038 tons; yield of gold per ton, 10 dwts. 19 grs.—Receipts, 2750*l.*; payments, 1740*l.*; profit, 1010*l.* Remittance, 1000*l.*

CAPULA.—Capt. Bray, March 22: The adit level stope is now in east parallel with the shaft; we are continuing it eastwards, to enable us to take up a level in whole ground when convenient to do so, as this is a very promising part of the mine, the branch of ore continues, though still narrow. We have been engaged during the past week in stoping down the south side of the shaft, so as to bring it perpendicular; one week more will enable us to conclude this, when we shall commence on the north side as well; this will be a much longer job, and will take us at least a month to finish, about which time I hope we shall be able to commence sinking it below the adit level: every exertion is being made to push on this most important work, but the holidays, and the inert character of the people, prevent our making all the progress we could wish. On the lode of San José west we have driven since my last 3 varas; the branch was very good for the greatest part of this distance,—it is not so productive now, as the ground has become very hard. I have been compelled to suspend this end for the present, on account of the scarcity of tools, as well as for the purpose of removing the men who were working in it into the shaft. The cross-cut south, to intersect the lode, has advanced 2 varas since my last, with no change to note. San Enrique level has advanced 5 varas during the month. Shortly after sending my last despatches, a branch of good ore appeared in this end, leading me to believe something very good was near at hand; we obtained a few bags of ore from it, the best of which assayed 75 marcs per monton; it has not continued as I expected, but we still break a little ore in the end, sufficient to induce the belief that a permanent change for the better is coming over this part of the mine. We are driving on the south part of the vein, and having now driven something more than 21 varas east, it will be advisable soon to cross-cut south through the main body of it, to prove it; for the last 8 varas we have never been quite without ore, and, as above mentioned, with occasional spots of good quality. My hope of a favourable result in this part of the mine is unwavering.—The Hacienda: We are still busy building the river wall, raising stone, blasting for filling in the ravine, and for the water-course, so as to get the advantage of all the room possible. The level space enclosed will give us an approximate amount of 12,000 square feet patio room, buildings, gaiers, &c., will be on another level in the side of the hill north of the ravine, a few feet above this. The whole of the works here are proceeding very much to my satisfaction.—Santa Rosa de Jauja: I have nothing new to report on the only work carried on in this mine: we have been breaking a few stones of ore, of 6 marcs per monton, as we proceed westward: the total amount driven to date beyond the stope is 13 varas, the stope being about another 13.

CENTRAL AMERICAN.—Alotepeque, April 2: In handing you our report on the work done in the mining department, we are glad to state that the different operations have progressed favourably, both underground and at surface. The returns, however, for the present month are somewhat less than those of February. The only way we can account for this falling off is that the ground in the deeper levels is much harder than in the shallower parts of the mine, and, as almost all of our old native miners are occupied in the different bargains, the stoping devolves on younger and inexperienced men, whose progress is slow.—San Pantaleon Mine: Cornubia engine-shaft has been sunk under San Felipe level 2 fms. 1 ft., by three Englishmen and three natives, at the rate of 22*l.* 10s. per fathom. The lode here is 2 ft. wide, of a promising character. The sinking of this pozo has been taken by three of our English miners, who have agreed to sink it a further distance of 10 fms. from San Felipe, or the 30 fm. level under Dolores, at 22*l.* 10s. per fm. Taylor's engine-shaft has been sunk by six men and three boys, 4 varas under San Ricardo level, at $35 per vara. The ground here continues hard for sinking.—Williams's, or New Eastern Shaft: Six men have sunk this pozo from surface 5¼ varas—3 varas at $18, and 2¼ varas at $22 per vara.—San Juan, or the 10 fm. level under Dolores: After extending the end east 3¼ varas further the No. 3 cross-course was reached, so that this bargain has been stopped. The lode continued productive to within a few feet of the cross-course. No. 4 stope, from the back of this level, east of the cross-course, has been brought to a conclusion this month, the lode proving remunerative throughout. In No. 6 stope, from back of the same level, the lode is 2 ft. wide, worth 5 cwts. of low-quality silver ore per fm. The lode in No. 7 stope, from back of same level, is 20 in. wide, and producing 7 cwts. of rich silver ore per fm.—San Ricardo, or the 20 fm. level under Dolores: The end extending east from No. 3 cross-course has been driven by six men 11 varas, at $10 per vara; the lode here is 20 in. wide, and productive, producing 6 cwts. of fair quality silver ore per fm.; this end has reached the No. 3 winze, sunk from the level above. In the same level, west from Cornubia engine-shaft, four men have driven 8¼ varas, at $8½ per vara; the lode continues small, and is without ore of value. The lode in No. 1 stope from the back of this level, east of the cross-course, is 2½ ft. wide, producing from 6 to 7 cwts. of silver ore per fm. In No. 2 stope, from back of the same level, the lode is 2 ft. wide, producing about 5 cwts. of fair quality silver ore per fm., with a very promising appearance. The lode in No. 3 stope, back of same level, is 20 in. wide, worth 7 to 8 cwts. of good silver ore per fathom. San Felipe Level: The cross-cut north driving from this level, east from Cornubia engine-shaft, towards the heaved portion of the main lode, has been driven by six men 9½

moving all alloy from the surface. Gold must necessarily be of a sufficiently good quality, otherwise the surface of the article would have the appearance of being honeycombed. The pickle takes up a small portion of the gold with the alloy, and this gives the former a slight, very slight, commercial value. As a matter of course in large factories, where the liquor is used in quantity, the saving is of some consideration to the employer.]—*Mining Record* (Melbourne.)

GEOLOGICAL SOCIETY OF LONDON.—May 6: Leonard Horner, Vice-President, in the chair. W. W. Collins, M.I.C.E., Buckingham-street, Adelphi; Chas. Carter Blake, honorary secretary of the Anthropological Society, lecturer on Zoology at the London Institution, Mabledon-place; and John Martin, Cambridge House, Portsmouth, and Keydell, Shorndean, Hants, were elected Fellows. M. F. J. Pictet, Professor of Zoology and Comparative Anatomy in the Academy of Geneva; Signor Q. Sella, member of the Italian Parliament, Turin; Herr Credner, Königlicher Bergmeister, of Gotha; Dr. J. J. Kaup, Conservator of the Museum of Darmstadt; Signor G. Meneghini, Professor of Palæontology in the University of Pisa; Signor B. Gastaldi, of Turin; and M. A. Moriot, of Berne, were elected Foreign Correspondents. The following communications were read:—

1. "On the Brick-pit at Lexden, near Colchester," by the Rev. Osmond Fisher; with a "Note on the Coleoptera," by T. V. Wollaston.

2. "On the Original Nature and Subsequent Alteration of Mica-schist," by H. C. Sorby. When ripples are formed whilst material is being deposited there is a structure generated which the author has, in former papers, termed "ripple-drift," and which he now described. This structure he stated might frequently be seen in polished sections of clay-slates, and also in a form modified through metamorphism in many mica-schists. From a consideration of the facts revealed by an examination of those rocks, he concluded that mica-schist is of sedimentary origin, metamorphosed after deposition, and sometimes after the production of cleavage and other physical changes, and that the bands of different minerals represent the planes of original deposition.

3. "On the Fossil Corals of the West Indies," by P. Martin Duncan.

On Wednesday, the following papers will be read:—"Further Observations on the Devonian Plants of Maine, Gaspé," &c., by Dr. J. W. Dawson; "Notice of a new species of Dendrerpeton," &c., by Dr. J. W. Dawson; "On the Upper Old Red Sandstone and Devonian Rocks," by J. W. Salter; "On the Relations of the Sandstone of Cromarty with Reptilian Footprints," by Dr. G. Gordon and the Rev. J. M. Jones: communicated by *Sir* R. I. Murchison.

DIVING APPARATUS IN COLLIERIES.—It will be recollected that at the time of the Edmund's Main Explosion it was stated that the workings in the Wombwell Main Colliery adjoining, and worked by the same gentleman, had been stopped for some time owing to the coal having become ignited. The pit was sealed to extinguish the fire on the day following the ignition (this was in March, 1862), and some three or four months since the re-opening of the pit was commenced; and to enable the men to put the air-ways in order, the use of diving apparatus has been introduced. The success has been complete—the colliers working in a highly poisonous atmosphere with the greatest facility. The result will, no doubt, be that similar means will be adopted to open workings, both at Edmund's Main and at any other mine where casualties necessitating the closing of a pit may unfortunately occur.

NON-LIABILITY OF ASSIGNOR OF SHARES.—The Lord-Chancellor has held, in the recent case of the British Provident Life and Fire Assurance Society, that acts *ultra vires* by a company cannot be inferred to have been done legally, merely from acquiescence or delay in questioning the transaction. If a company, however, has power to do an act, and there be only requisite a particular formality, such as the consent of a general meeting, their acquiescence may be inferred by delay, and the Court would impute a knowledge of it to every shareholder. In this case a shareholder had transferred his shares to one of the directors of the company as part of the terms of a compromise of an action against the company. The Deed of Settlement contained no power to purchase shares from shareholders. The transfer of the shares was duly entered in the books of the company, and the return made to the Registration Office: but no public meeting had been held sanctioning the transaction. It was held that, from lapse of time, the shareholders must be taken to have acquiesced in the transfer, and the assignor of the shares was not, therefore, liable as a contributory.

VOID LIMITED LIABILITY.—In *re* the State Fire Insurance Company, Vice-Chancellor Wood has held that where directors of a joint-stock company are authorised by the Deed of Settlement to draw or accept bills of exchange, a proviso in the deed, limiting the liability of the shareholders upon such bills to the extent of their respective shares in the capital stocks, is repugnant and void; and that bills drawn in a proper form by a duly authorised agent of the company in Canada, and accepted by the directors in England, are binding upon the shareholders, and carry damages and interest according to the provisions of the Canadian law.

TRADE BRANDS.—In the case of Hopkins *v.* Hitchcock, in the Common Pleas, where, on a contract for the sale of iron branded "S. and H. with a crown," S. and H. being the initials of the firm, iron of a similar quality, but branded "H. and Co., with a crown," was delivered, Snowdon, one of the firm, having retired, it was held that the change of brand was no ground for not accepting the goods, the Court being of opinion that the contract was one for a particular description of iron, and not for a particular brand. Mr. Justice Byles added, "I am fully sensible of the artificial value of brands, and that, putting an extreme case, some brands would sell anything; but here it is not a contract for such and such a brand, but it is merely a matter of description, and probably inaccurate description. There is no doubt but that the iron was of the same quality as that ordered, and suppose it had been corporeally present at the time of the contract, and had been shown as iron of S. and H., and it was of H. and Co., the maxim would have come in—"Præsentia corporis tollit errorem nominis; et veritas nominis tollit errorem demonstrationis."

JOINT CREDITORS.—It was lately held by Vice-Chancellor Stuart, in Lodge *v.* Pritchard, that joint creditors who had received only part of their debts out a joint estate in bankruptcy, although they might come in and prove against the separate estate of a deceased partner, were not entitled to be paid, *pari passu*, with the separate creditors.

VOLUNTARY WINDING-UP.—In the Rolls Court, on Tuesday, the question arose whether a company registered under the Joint-Stock Companies Act, 7 and 8 Vic., c. 110, and also under the Joint-Stock Companies Act of 1856, was compelled by the general code, or Companies Act of 1862, to be registered, in order to wind-up voluntarily under the provisions of the last-mentioned Act. The Master of the Rolls delivered judgment, to the effect that any company registered under the Act of 1856 need not be registered again under the Act of 1862 for any purpose whatever, and, in particular, to enable it to wind-up voluntarily. The question raised by the petitioner, however, was a very important one, and his Honour thought the petitioner was entitled to have the question decided by the Court. The petition would not, therefore, be dismissed with costs, but no order would be made on it. The effect would be that the voluntary winding-up would proceed.

A company is in course of formation for the more extended development of an extensive mineral property, known as the SOUTH JANE SILVER-LEAD MINE. It is situated directly south of East Jane, and is (according to the testimony of several accredited agents) traversed by the same lodes, which have proved so productive in the adjoining sett. Capt. James Seccombe, who has recently inspected the property, says that taking into consideration the very excellent situation of this sett for mining purposes, the favourable nature of the stratum, the proximity to the East Jane, its being traversed by the lodes of that mine, particularly that known as the western lode, from which about 4000*l.* worth of lead ores have been raised, and the ore ground having a southerly dip, he has no hesitation in stating that he considers the development of this property a first-class mining speculation, and one that will, when laid open in depth, well reward capitalists for the necessary outlay. Capt. W. Taylor (of Glasgow Caradon Consols) and Capt. T. Hodge (of Lowithiel) bear corroborative testimony as to the prospect of this property, when fully developed, proving a successful speculation. The property is extensive, being about three-quarters of a mile square, and it appears that arrangements have been made for its purchase for 800*l.* in cash, and 20 fully paid-up shares. As it is proposed to divide the company into 64 parts or shares, of 200*l.* each (50*l.* per share to be paid upon application, and the remainder to be called up as required for working the mine), there will be a working capital of 8000*l.*, which it is estimated will be amply sufficient for the remunerative development of the property. The old company, it would be seen, expended something like 6000*l.*, and sank a shaft to the depth of 17 fms., by means of a water-wheel, which proved insufficient to carry the explorations deeper; but the present company propose to erect a 60-in. cylinder steam-engine. The grants are for a term of 21 years, commencing in 1863, at 1-15th dues.

CARADON MINING DISTRICT.—A carefully lithographed plan of the Caradon Mining District, Liskeard, has just been issued by Mr. Brenton Symons, of Hatton-garden. The lodes, cross-courses, elvan-courses, and the underlie of each, is distinctly shown; as, also, are the boundaries of setts, the account-houses, and the depth of the mine from surface. The plan includes the setts from North Wrey on the east to New South Caradon on the west; and from West Sharp Tor and North Phœnix on the north to the Caradons on the south.

STOCK EXCHANGE DIRECTORY.—The enquiries for a list of the names of provincial stock and sharedealers have been so frequent that it may fairly be anticipated that the "British and Foreign Stock Exchange and Joint-Stock Companies' Directory" will be favourably received by a large number of persons connected with commercial undertakings. The plan of the book is excellent, and considering that it is the first edition before us the number of inaccuracies and omissions are certainly not more numerous that we should have expected. A list of the managers, committees, and members of the Stock Exchange with their addresses, and similar information with respect to the Stock brokers in various provincial towns and foreign capitals. A long list of banking, insurance, and general companies are appended, and add considerably to the aggregate value of the book.

RATING COAL MINES.—In the House of Commons, on Tuesday, a petition was presented by Sir F. Crossley, from the Poor-law Guardians of Halifax, praying for the rating of coal mines to the poor.

NEW RAILWAY IN RUSSIA.—It is understood that a new railway line, in connection with the Riga and Dunaberg line, is about to be brought out, with a capital of 2,500,000*l.*

LIFE-BOAT SERVICES.—We lately noticed the launch, at Liverpool, of one of Richardson's Tubular Life-Boats, the "Rescue," placed by the Royal National Institution at New Brighton. On Monday night last she rendered effectual service in saving the lives of ten persons from the "Levant," of Bristol, wrecked on the north bank at the entrance of the Rock Channel.

A newly-invented electro-metallic coating is about to be applied to the plates of the iron-cased steam-frigates *Gloire* and *Invincible*. It appears that this new composition has been found to be very successful in the preservation of metals. The Minister of Marine has addressed a despatch to the several Port-Admirals, instructing them to send a number of shipwrights to Paris to be instructed in the preparation of this new composition. Experiments likewise are about to be made to prevent the rolling of iron-cased ships.

The Committee of the Stock Exchange have appointed Monday next a special settling day in the shares of the Vallanzasca Gold Mining Company and the Alamillos Company, both of which are to be officially marked.

*** With the Journal of this week is given a SUPPLEMENTAL SHEET, which contains—Money Making—No. III.; Foreign Mining and Metallurgy; Mineral Industry of Prussia; Meetings of the National Provincial Bank of England; the Devonshire Great Consolidated Mining Company; the Holmbush, South Condurrow, Bryn Gwiog, Long Rake Mining Companies, and Chesterfield and Midland Silkstone Colliery Company; Mining in Ireland—Geological Ordnance Map; Literary Notice; Mosheimer's Patent Stamps, Gold and Silver Amalgamating Machines, and other Illustrated announcements.

*** With the Journal of April 25 we published a SUPPLEMENTAL SHEET, which contains a detailed report of the Accident at the Botallack Mine—on Money Making—Foreign Mining and Metallurgy—Meetings of the East Carn Brea, North Downs, Lady Bertha, and Great Barrier Mining Companies—Explosive Gases in Collieries—The Dyas, or Permian, Formation in England—Lighthouse Illumination—Manufacture of Copper Tube—New Boring Machine—Improvements in Railway Crossings—Trial of a Traction-Engine—Gigantic Iron Casting—Prices of Materials, &c.

# The Mining Market; Prices of Metals, Ores, &c.

METAL MARKET—LONDON, May 15, 1863.

| COPPER. | £ | s. | d. | |
|---|---|---|---|---|
| Best selected....p. ton | 92 | 0 | 0- | — |
| Tough cake..... „ | 89 | 0 | 0- | — |
| Tile ..... „ | 89 | 0 | 0- | — |
| Burra Burra .... „ | 94 | 10 | 0- | — |
| Copper wire .....p. lb. | 0 | 1 | 0½ | — |
| ditto tubes ..... „ | 0 | 1 | 0- | — |
| Sheathing & bolts p.ton | 96 | 0 | 0- | — |
| Bottoms ..... „ | 101 | 0 | 0- | — |
| Old (Exchange) .... „ | 82 | 0 | 0- | — |

| IRON. | Per Ton. | | | |
|---|---|---|---|---|
| Bars, Welsh, in London.. | 6 | 5 | 0- | — |
| Ditto, to arrive ..... | 6 | 0 | 0- | — |
| Nail rods ..... | 7 | 0 | 0- | — |
| „ Stafford. in London | 7 | 10 | 0- | — |
| Bars ditto | 7 | 5 | 0- | 8 0 0 |
| Hoops ditto | 8 | 7 | 6- | 8 10 0 |
| Sheets, single ..... | 9 | 5 | 0- | 9 15 0 |
| Pig, No. 1, in Wales .. | 3 | 10 | 0- | 4 0 0 |
| Refined metal, ditto.... | 4 | 0 | 0- | 5 0 0 |
| Bars, common, ditto.... | 5 | 7 | 6- | 5 10 0 |
| Ditto, merchant, in Tees | 6 | 10 | 0- | — |
| Ditto, railway, in Wales | 5 | 5 | 0- | 5 7 6 |
| Ditto, Swed. in London. | 11 | 10 | 0- | 12 10 0 |
| To arrive ..... | 11 | 10 | 0- | 12 10 0 |
| Pig, No. 1, in Clyde.... | 2 | 14 | 6- | 3 0 0 |
| Ditto, f. o. b. in Tees .. | 2 | 8 | 0- | 2 10 0 |
| Ditto, forge, f.o.b. in Tees | 2 | 5 | 0- | — |
| Staffordshire Forge Pig. | | — | | - — |

| LEAD. | | | | |
|---|---|---|---|---|
| English Pig, ordny. soft | 20 | 15 | 0- | 21 10 0 |
| Ditto (WB) ..... | 23 | 0 | 0- | — |
| Ditto sheet ..... | 21 | 5 | 0- | — |
| Ditto red lead ..... | 21 | 10 | 0- | 21 15 0 |
| Ditto white ..... | 26 | 0 | 0- | 27 0 0 |
| Ditto patent shot..... | 23 | 0 | 0- | 23 10 0 |
| Spanish ..... | 19 | 15 | 0- | — |

| BRASS. | Per. lb. |
|---|---|
| Sheets ..... | 8¾d.-9¼d. |
| Wire ..... | 8¾d.- 9d. |
| Tubes ..... | 10½d.-11¾d. |

| FOREIGN STEEL. | Per Ton. | | | |
|---|---|---|---|---|
| Swedish, in kegs (rolled) | 15 | 10 | 0- | — |
| „ (hammered). | 15 | 10 | 0-18 | 0 0 |
| Ditto, in faggots ..... | 17 | 0 | 0-18 | 0 0 |
| English, Spring ..... | 18 | 0 | 0-23 | 0 0 |
| Bessemer's, Engineers Tool | 44 | 0 | 0- | — |
| „ Spindle .... | 30 | 0 | 0- | — |
| QUICKSILVER ..... | 7 | 0 | 0 | p. bottle |

| SPELTER. | Per Ton. | | | |
|---|---|---|---|---|
| Foreign ..... | 18 | 0 | 0- | — |
| To arrive ..... | 18 | 0 | 0- | — |

| ZINC. | | | | |
|---|---|---|---|---|
| In sheets ..... | 23 | 0 | 0- | — |

| TIN. | | | | |
|---|---|---|---|---|
| English, blocks .....119 | 0 | 0- | — | |
| Ditto, Bars (in barrels)..120 | 0 | 0- | — | |
| Ditto, Refined .....124 | 0 | 0- | — | |
| Banca .....128 | 10 | 0- | — | |
| Straits .....124 | 0 | 0-125 | 0 0 | |

| TIN-PLATES.* | | | | |
|---|---|---|---|---|
| IC Charcoal, 1st qua. p. bx. | 1 | 7 | 6- | 1 8 6 |
| IX Ditto 1st quality „ | 1 | 13 | 6- | 1 14 6 |
| IC Ditto 2d quality „ | 1 | 4 | 6- | 1 0 |
| IX Ditto 2d quality „ | 1 | 10 | 6- | 1 12 0 |
| IC Coke ..... „ | 1 | 2 | 6- | 1 4 0 |
| IX Ditto..... „ | 1 | 8 | 6- | 1 10 0 |
| Canada plates ....p. ton | 12 | 10 | 0-13 | 0 0 |

In London; 20s. less at the works.

| | |
|---|---|
| YellowMetal Sheathing .p. lb. | 8¼d.- |
| Sheets .....p. lb. | 7¾d.- |
| Indian Charcoal Pigs in London ..... | 6 12 6- 6 15 0 |

* At the works, 1s. to 1s. 6d. per box less.

REMARKS.—During the past week a fair amount of business has been transacted in metals, but no marked alteration has taken place. The orders from India are still considerably below the average; but to America, the Continent, and Mediterranean ports shipments appear to be on the increase; the demand for home consumption is dull.

COPPER.—English, both manufactured and raw, remains without change in fixed rates, the former firm at full price; second-hand parcels of cake, tile, and ingot may be met with 1*l.* or so under price. The market for foreign copper remains quiet. Burra Burra, 94*l.* 10s.; Kapunda, 95*l.*; Chili, slab, 83*l.*, in Liverpool.

YELLOW METAL.—In good steady request, chiefly for shipment to India. Sheets firm, at 7½d. to 8d. per lb.; sheathing, 8¼d. Some makers quite full of orders.

IRON.—Railway bars dull, and reduced in price; 5*l.* 5s. in Wales. Merchant bars have been rather more in request, at the reduced rate, 5*l.* 5s. at works; 6*l.*, to be brought forward and delivered f.o.b. here; 6*l.* 5s. from stock. Staffordshire descriptions are, perhaps, a little less in demand, but most makers are well supplied with orders, and prices are very firm. In Swedish bars there is little or no alteration to note. Indian specifications, ex ship, 11*l.* 5s. to 11*l.* 10s., demand very languid. Scotch pigs have remained throughout the entire week without fluctuation, at 50s. 4½d. to 50s. 6d., mixed numbers.

SPELTER.—The slight movement lately apparent in this metal seems to have subsided without any quantity having changed hands; quotations remain as before, or, perhaps, a shade easier, 17*l.* 17s. 6d. to 18*l.*, cash.

ZINC, steady at 23*l.*; demand not excessive.

LEAD.—There has been a considerable business doing in English pig, ordinary soft quality, at 20*l.* 12s. 6d. to 20*l.* 15s., sellers, and now firm at the latter price; WB, 23*l.* In manufactured, pipe and sheet are more in request, at quotations; red lead has also sold more freely. Spanish pig, 19*l.* 10s. to 19*l.* 15s.

TIN.—English makes unchanged; foreign is quoted better, sales having taken place at rising prices; Straits has realised 124*l.* to 125*l.*; Banca, 128*l.* 10s.

TIN-PLATES quiet, at 22s. 6d. for IC coke; 27s. 6d., charcoal. Large shipments to America continue to be made with great regularity.

NEW YORK, APRIL 30.—We refer to our last circular, of March 31. Violent fluctuations in the value of gold and exchange have been of almost daily occurrence, and have completely unsettled business throughout the country. With every decline there are a great many sellers of merchandise and no buyers, and with every rise there are buyers at the prices of the day before and no sellers. The financial position of the Government has been further improved by large conversions of legal-tender notes into bonds, and, as the notes received are immediately disbursed, great ease is produced in the money market. Although different opinions still prevail in regard to the future price of gold, the impression has become more general during the last few weeks that a further decline of 20 to 30 per cent., which at one time was considered possible, is now out of the question, and that we are likely to see another inflation in the value of all securities and commodities. Gold advanced two weeks ago to 168 per cent., declined to 145 per cent., and is to-day quoted at 150½ per cent. Exchange on London, 166 per cent.

TIN has been without transactions of moment. During the last week several lots, in all 1200 slabs Straits, were sold at about 50 c. As the stocks are almost entirely held out of the market, it is difficult to give quotations for wholesale parcels: 300 slabs Straits, 1200 slabs Banca, and 500 Billiton have been shipped during the month to England. We quote Banca, 55 c.; English, 46 c. The exportation of the above lots, although small, has, of course, strengthened the views of holders. The importations amount to 3500 ingots English. From the Straits there is nothing on the way; but a vessel was loading at latest dates at Penang for New York, which will bring 2000 to 3000 slabs. We estimate the stocks in first hands at 22,500 slabs Straits, 2000 slabs Banca, and 150 tons English, equal to 4500 slabs—total in Boston and New York, 29,000 slabs. The stocks in dealers' hands are very light. Of Banca the consumption seems to be on the decrease, checked by the higher prices. The sales of English are a little more liberal than formerly, but the article is not much in favour, and will not take the place of Straits even at lower rates. The advices from Europe and the East Indies continue to indicate higher prices for tin in all the markets.

SPELTER has been quiet, with occasional small sales of Silesian at 8¼ to 8¾ c., and Lehigh 8¼ c. We have had importations of 600 tons foreign, and estimate to-day's stock at 800 tons Silesian and Bleyberg.

COPPER has not recovered from the heavy decline which took place in March, although there has been a steady demand for consumption, and a few orders for export. We are now within three weeks of the time when the first arrivals of Lake Copper appear in the market, and this induces holders on speculation to accept current rates. We quote Baltimore, 30 c.; Lake, 30¼ c., for small lots. Minesota, 30½ c. has been paid for shipment. We estimate the stocks of to-day at 2,000,000 lbs., mostly Lake, and all in second hands. The different Lake companies have not a pound of the past season's receipts left on hand; the Baltimore Copper Company has now stopped work; the Baltimore and Cuba has but little stock, having made heavy deliveries to Government, and the Bergen Port Company has sold for future delivery. The estimates in regard to this season's yield at Lake Superior differ materially. Several of the leading mines have produced much less than the average of 1861 and 1862, but some of the smaller have been considerably improved, and it is safe to calculate upon the same product as the last two years—7500 tons, or 15,000,000 lbs. pure copper. The exports of the month have been 100,000 lbs. Minesota to Havre, and 120,000 lbs. to Hamburg. On the other hand, two parcels of American copper have been received from England, and there are still several invoices of Lake and Chili on the way from Europe. The last-named kind is very scarce, and would command ¼ to 1 c. more than Lake.

LEAD.—With the exception of a contract made by an English house with the Government, which embraced 4500—5000 tons, the business has been very limited. Under ordinary circumstances the market would have been materially affected by such a large reduction in the stocks: but, as it is, prices have advanced only a little from the lowest point in March. We quote 8¾ to 9 c. for all kinds of foreign. The bulk of the stocks is not offered for sale. The importations for the month are 1500 tons, and we estimate the stocks of foreign at 7850 tons. In the stocks mentioned in some of our late circulars, a certain quantity understood to have been imported for Government had not been taken into account.—WINTERHOFF AND CO.

NEW YORK, APRIL 29.—Scotch pig-iron is in limited demand, at $36·50 to $37, ex ship, and $37·50 to $38 from store. American pig is quiet, but very firm at $35 to $35·50 for best brands. English refined bars are in moderate request, at $85, cash, which is lower. Of other kinds sales of some 1000 tons English rails have been made at $71·50, and 200 tons charcoal bloom at $60, cash.

BOSTON, APRIL 27.—The coal market remains without material change. Late cargo sales have been at $7 to $7·25 for Pictou, and $6·75 per ton for Sydney. Anthracite has been in steady retail demand, at $9 per ton. Pig-iron continues in moderate demand, and prices are a shade easier. The sales have been at $40 to $41 per ton, cash and four months, for Scotch No. 1. American pig has been sold in small lots at $39 to $41 per ton, cash and four months. In bar-iron there is no change, and the sales have been confined to small lots. In Russian sheet-iron nothing has been done, and prices are nominal.

THE TIN TRADE.—Mr. N. Breebaart (Goll and Co., Amsterdam), under date April 30, writes:—The past month has presented nothing of any importance. In the beginning the quotation of 77 fls. was supported, but business was next to nothing, buyers not feeling disposed to go beyond 76¼ fls. A little later some transactions took place at this price, but after all the sales were of no importance. For the last fortnight this price has been no longer obtainable; in order to effect a sale it would be necessary to accept 76 fls.—in fact, it is even reported that 500 slabs have just been sold at this rate, at which, however, there would appear to be no more sellers for the present.

| | 1863. | 1862. | 1861. |
|---|---|---|---|
| Stock of Banca tin on warrants, March 31 .....Slabs | 44,090 | 36,066 | 41,454 |
| Deliveries in April ..... | 4,638 | 6,766 | 9,188 |
| Stock on warrants April 30 ..... | 39,452 | 29,300 | 32,266 |
| Stock in hands of Trading Society for their annual sale | 101,325 | 139,884 | 136,554 |

The foreign markets have not supported the article during the past month, expecting to purchase later on more moderate terms. The consequence has been a perfect calm, but the position has not changed materially. This shows to satisfaction that the stock is in firm hands, and that the opinions as to the future are generally favourable. Statistics do not lead to a different conclusion, and continue in favour of the article.

Business in the MINING SHARE MARKET this week has been interrupted by the settlement of the fortnightly account, on Thursday, and, with the exception of a little activity in two or three mines, has been very dull and depressed. To add to the depression, another serious defalcation has taken place in the MARKET, offering one more costly illustration of the indiscriminate manner in which parties are admitted to it, as well as of the increasing evils of mere speculation for the "account." The standard for copper ore declined again last week, but it is some satisfaction to know that tin and lead both keep up, though the latter is not so good as we expected to see it. East Caradon shares declined to 35, but leave off 35¼ to 36¼; there is no material alteration in the official report of the mine, and the great depression in the shares is owing, we apprehend, to the low price obtained for the last parcel of ores, and the consequent reduction in the profits. The sale caused great disappointment at the time, as the difference in price was more than could be placed to the credit of the "standard." The latest report values the 50 east worth 15*l.* to 18*l.* per fathom; the 60 east, 40*l.* per fathom; the 70 east, 30*l.* per fathom; the 70 west, 45*l.* to 50*l.* per fathom. Devon Great Consolidated, 510 to 520; the statement presented to the annual meeting shows that during the past year the ores sold exceed in quantity those sold in the previous year—viz., 3767 tons, and the amount of money realised in excess of previous year 16,409*l.* 3s. 10d., while the general expenditure, calculated in reference to each ton of ore raised, has been 2s. 6½d. per ton less. The stock of ore in reserve in the mines amounts to 71,698 tons, or an increase of 5918 tons over last year. Calvadnack shares, 7 to 8; at the meeting the accounts showed a balance of 270*l.* 6s. against the adventurers, but no call was made. Wheal Unity shares have been in good demand at low prices, and the fear of another call next week has induced many sellers. A good lode, however, in the new shaft would cause a good and total change in the prospects of the mine; they leave off 6s. to 8s. Caradon Consols, 15 to 17¼. Clifford Amalgamated shares have been firmer at 23 to 24. Wheal Crebor shares have been very largely dealt in, and fluctuated from 56s. to 62s., leaving off 3½ to 3¼; the lode in the east end of the shaft is valued by the agent at 35*l.* per fathom, taking the ore at 5*l.* per ton; the west end, 12*l.* per fathom; the 72 east is valued at 2 tons per fathom. Bottle Hill shares have been in considerable demand, and leave off 12s. to 14s.; the new south lode continues of the same value, and is opening out a new mine, in easy ground to work.

Wheal Grenville shares rose to 6 soon after our last, but receded again, and leave off 5¼ to 5¾; a good lode has been cut in the 100 west, 4 ft. to 5 ft. wide, and supposed to be the tin lode, and will lay open a large extent of tin ground; below the 80, in the new shaft, this lode is worth 40*l.* per fm., and where now cut, in the 100 west, is 90 fms. from it; in the cross-cut in the 80, towards West Basset lode, droppers are being met with, indicating the near apppoach of the lode. North Roskear, 30 to 31; at the meeting, on Tuesday, the accounts showed a balance of 130*l.* 14s. 4d. against the mine, and a resolution was passed to erect a 24-inch cylinder engine. Since the last meeting the 184, west of Pearce's shaft, has been communicated with the winze sunk from the 174, which has laid open a good course of ore for stoping; Pearce's shaft is now down 8 fms. below the 184, and will be communicated with the 194 west within three months, and when effected, will lay open a good course of ore for stoping. Roskearnowth, 8 to 10; at the meeting, a call of 1*l.* per share was made; the adit west, on North Roskear lode, has been driven 8 fms.—lode averaging about 2 feet wide, producing occasional stones of ore; in the 50, west of Park-an-bowan shaft, 4 fms. has been driven—lode, 4 ft. wide, and a very kindly one; the 70, driving on the Park-an-bowan lode, will be pushed on to the junction with the North Roskear lode, which will be accomplished in about five months; this lode is standing in whole ground for 300 fms. in length, and is an important point. Cook's Kitchen, 26 to 27; Copper Hill, 84 to 86; Drake Walls, 2 to 2½. East Basset shares have fluctuated very much; they receded from 100 to 88, then rose again, and leave off 95 to 100. East Russell, 3½ to 3¾; East Wheal Grenville, 45s. to 47s.; Garlidna, 3½ to 4; Grambler and St. Aubyn, 12 to 14. Bryn Gwiog, 29 to 30; at the meeting the accounts showed a balance of 337*l.* 0s. 2d. in favour of the company; the mine is looking better in the shaft, and this month 45 tons of lead ore will be sold; the agent also hopes to increase the sales in the coming quarter. Great South Tolgus, 4¾ to 5½; the lode in the 100 west is worth 1 ton per fm., and promising for improvement. West Basset, 12 to 13; the lode in the 104 east is 4 feet wide, and worth 3½ tons per fm. East Carn Brea, 8½ to 8¾; the lode in the 50, east of cross-course, is producing 2 tons of ore per fathom; the stopes in the back of the 50 is producing 5 tons per fathom.

Great Wheal Fortune, 35 to 36; Hingston Down, 2¾ to 3; Illogan Mines, 1½ to 1¾; Lady Bertha, ¾ to 1; Marke Valley, 7½ to 7¾; Nangiles, 10 to 11; New Seton, 110 to 120; North Basset, 4½ to 4¾; North Crofty, 4¼ to 4¾. North Treskerby, 3¾ to 4; the mine sampled 407 tons of good quality ore. Pendeen, 7¾ to 7¾; Providence Mines, 41 to 43; Rosewarne United, ½ to ¾; South Basset, 7 to 8; South Caradon, 400 to 410; South Frances, 82½ to 87½; South Tolgus, 52 to 52½; Stray Park, 35 to 37; Tincroft, 19 to 20; Trumpet Consols, 10 to 11; West Caradon, 28 to 30; West Seton, 250 to 260; Wheal Basset, 62½ to 67½; Wheal Basset and Grylls, 26 to 27; Wheal Buller, 50 to 55; Wheal Grylls, 29 to 30. Wheal Harriett declined to 2¾ sellers, but leave off better, at 2¾ to 3½; the 100 fm. level stopes are reported worth 100*l.* per fm. No change to notice in the copper lode. At Wheal Kitty (St. Agnes), Pryor's lode, in the 54, is worth 15*l.* per fm.; west end, 12*l.*; rise, 12*l.*; and the 44 west, 12*l.* per fm. Wheal Edward, 3 to 3½; the new south lode is worth 20*l.* per fm., and in the back 45*l.* per fm.; the 81 west, 12*l.* per fathom; the winze below the 70, 4 tons per fm.; the lode in the 50, 25*l.* to 30*l.* per fm. The mine continues to improve. Wheal Ludcott, 5½ to 5¾; Wheal Margaret, 31 to 32; Wheal Mary Ann, 15½ to 16¼; Wheal Seton, 255 to 260; Wheal Trelawny, 15½ to 17½; Wheal Uny, 6¾ to 6¼. Wheal Rose shares have advanced from 12 to 25; the lode is worth 30*l.* per fm. In clearing up the boundary shaft, in the 60, a course of ore was discovered worth 50*l.* per fm.; this shaft is only 20 fms. from Great North Downs boundary shaft, called River shaft, which they are now clearing. Wheal Hope, 8s. to 10s.; this mine is now in fork to the 48, and several pitches set for lead. Treloweth shares enquired for, at 15s. to 1*l.* Sithney Carnmeal shares have not been so firm, and receded to 4, 4¼. East Rosewarne shares have not been so firm in price. The sump winze is worth 20*l.* per fm.; the 55 west, 25*l.* per fm., and the stopes 20*l.* per fm. North Robert shares flat, at 13s. to 14s.; the 30 west, east of Edward's cross-cut, on No. 1 south lode, has improved, and worth 1½ ton per fm. Wheal Kitty (Lelant), 8½ to 9.

On the Stock Exchange, a fair average amount of business has been transacted in Mining Shares during the week. The following quotations were officially recorded in British Mining Shares:—East Basset, 96½, 98, 90, 100; East Caradon, 37, 38, 36¾, 35½, 35¾, 36, 37; North Roskear, 30½, 29¾; Tincroft, 19¾, 19½, 19, 19½; Wheal Ludcott, 5¼, 5¾; Great South Tolgus, 4¾; North Wheal Basset, 4¼, 4; Devon Great Consols, 515; Roskearnowth, 8¾; North Wheal Crofty, 4¾; South Carn Brea, 3½; Cambrian, ½; East Wheal Russell, 3¼. In Colonial Mining Shares the prices were:—Kapunda, 1½, 1¾; Yudanamutana, 3¾, 3¾, 3¾, 3½, 3¾; Port Phillip, 1¾; Great Northern Copper of South Australia, ¼; North Rhine Copper of South Australia, ¼; Alamillos, ¼. In Foreign Mining

Shares the prices were:—Don Pedro, 1¼, 1, 1½; United Mexican, 7½, 7⅝, 7, 6¾; Capula, ½; St. John del Rey, 55¼, 55⅛, 56, 55⅜; Cobre, 19¼; East del Rey, 1, 1⅛; Lusitanian, 1¼; Montes Aureos, 2¼; Vallanzasca, ½, ⅜.

IRISH MINE SHARE MARKET.—The chief feature of this week's business on our Stock Exchange is a sudden rise in the market value of the shares of the Wicklow Copper Mining Company, from 38*l.* 15s., last week's closing quotation, to 41*l.* 10s. per share (5*l.* paid). This is attributable to the general satisfaction the shareholders and the public have derived from the lucid and very favourable reports from the board of directors and the much-respected resident managing director, Mr. Edward Barnes, J.P., which have been issued to the shareholders, in anticipation of the general meeting, to be held on Tuesday next, and which we insert at length at the foot of this. It is evident that the prospects of this company's mines are as promising and as sound as at any period of their long existence, during which they have paid nearly 250,000*l.* sterling in dividends, from *bona fide* profits on the workings. The shares of the Mining Company of Ireland were somewhat weaker than for some time past, and have gradually fallen from 19*l.* 17s. 6d. to 19*l.* 15s., and 19*l.* 12s. 6d., at which figure they closed in moderate demand. The short favourable notice in last week's Journal of this company's excellent position is but the echo of many of our previous comments on the same subject for some years past, and even antecedent to the time when their shares could readily be procured at 12*l.* There is no doubt that the career of this company is eminently useful to the country, as developing many mining properties, without which they would, probably, have lain dormant for a long time to come; and the result of the excellent management of the whole concern is also most satisfactory and profitable to the numerous shareholders. Carysfort shares have slightly fluctuated, and receded from 21s. 6d. to 21s. The occasional abandonment of work, which for a time is looked upon by the general body of shareholders as likely to lead to good results, of course serves as a damper on their expectations, and tends to depreciate the market price of their otherwise, no doubt, valuable property. It is to be hoped, for the general interest of mining in Ireland, that the managers of the mining operations of this company will, ere long, be able to determine upon a proper and systematic course of action, so as to properly develope these mines, for which the company have ample funds at command in yet uncalled capital. Some small parcels of silver-lead ore from Ballintemple Lead Mine have, we hear, been sold at 14*l.* 9s. per ton, and have been much approved of by the buyers, as producing a very satisfactory percentage of silver. We hope the company will soon raise such quantities of lead ore as to enable them to offer them to the usual competition among the smelters, and thus to realise the best price for their produce. General Mining Company for Ireland shares have gone back from 4*l.* 10s. (4*l.* paid) to 4*l.* 5s., at which price they are fairly supported. A half-yearly general meeting of this company will be held in Dublin on June 1. Their transfer-books will be closed from the 20th inst. to June 2.

The Wicklow Copper Mining Company will hold their half-yearly meeting on Tuesday, when the report of the directors will be submitted. Since Sept., 1861, the directors have given the pyrites market their best and closest attention, and have succeeded in retaining a fair share of business. The charges against the half-year amount to 9000*l.* 4s. 9d., which is considerably less than in the two preceding half-years. There are two very important works referred to in Mr. Barnes's report from which further savings may be expected—the holing of the deep sinking under the 100 to communicate with the rise coming up from the 56 cross-cut, old mine, which when finished will complete the drainage of the north mine to the 128 fm. level from grass. The advance from the bankers had been reduced from 11,200*l.* to 6000*l.* up to the date of the accounts, and to 1750*l.* since. The directors now felt themselves in a position to recommend the declaration of a dividend of 1*l.* per share, not, as the shareholders will observe, out of the profits of this half-year, but out of the proceeds of ores of past half-years delivered and in process of delivery. The Amalgamation Bill having passed a Committee of the House of Lords on April 27, the Hibernian Mine Company, in accordance with the standing orders of Parliament, have issued advertisements convening the necessary Wharncliffe meeting for May 16. Although the difference in the constitution of the Wicklow Copper Mine Company (Limited) renders the holding by them of a Wharncliffe meeting unnecessary, the directors have called a special meeting, to be held on Tuesday, immediately after the half-yearly meeting on the same day, at which the bill will be submitted to the shareholders for approval, and have otherwise adopted all the forms of a Wharncliffe meeting, by sending circulars and proxies to the registered address of every shareholder. Mr. E. Barnes, the resident director, reports that the ores raised amounted to 13,000 tons of pyrites, 1500 tons of riddlings and smalls, and 5 tons of precipitate. The machinery, shafts, levels, underground workings, and general plant are in good and efficient order, and their working position and prospects continue to hold their usual substantial character.

COAL MARKET.—On Monday, the fresh arrivals were 43 ships of all kinds; the business of the market was dull throughout, all descriptions of coal quoting last day's prices. Best house coal, 16s. to 16s. 6d.; seconds, 14s. to 15s.; Hartley's, 13s. 6d. to 14s. 9d.; manufacturers', 12s. to 14s. per ton.—On Wednesday, only 7 ships having reached, in consequence of the strong south wind, rather more firmness was manifested in the market for house coal, although no improvement in prices can be quoted. Hartley's and manufacturers' without alteration.—On Friday, 16 fresh ships arrived. There was no alteration in the market for house coal, last prices being firmly maintained. Hartley's were scarce, and 3d. per ton higher. Hetton Wallsend, 16s. 6d.; Haswell Wallsend, 15s. 9d.; Hartlepool Wallsend, 16s.; Kelloe Wallsend, 15s. 3d.; Eden Main, 14s. 6d.; Heugh Hall Wallsend, 14s.; Bebside West Hartley, 15s.: 5 cargoes unsold; 165 ships at sea.

CONTRACT FOR COAL.—The Great Eastern Railway require tenders for the supply of Locomotive Coal for twelve months.

The East Basset and Grylls Mine, in Wendron, is about to be worked upon the Cost-book System. The sett, for 21 years, is secured from the Duchy, the terms being 1-18th, reducible to 1-20th on the erection of a steam-engine of sufficient power to drain the mine. The sett is half a mile in length, and 160 fathoms in breadth, and 10 or 12 lodes from Basset and Grylls run through it. Captains Wilkin, Taylor, Harris, and Watters have inspected and reported favourably upon the prospects of the property.

We have received the prospectus of the Terriccio Copper Mining Company (Limited), which seems to be brought before the public with a direction, and under such auspices, as to invite confidence. The extraordinary good fortune which resulted from the energetic and well-conducted operations of the adjacent mine, that of Messrs. Sloane and Hall, is sufficiently well known to those conversant with mining affairs; and there is every reason to believe that a similar amount of success may await the lessees of the Terriccio; which, indeed, to a limited extent, has already been worked to advantage, requiring only deeper sinking to develope its resources. The samples which have been shown us are indicative of great mineral richness. The engineers who have examined the workings, as well as the assayers of the products of the mine already opened, have reported very favourably of the situation and resources of the property, which, from its facilities as regards water-power, and its contiguity to a line of railway, is at once open to active enterprise.

At Redruth Ticketing, on Thursday, 2971 tons of ore were sold, realising 14,287*l.* 8s. 6d. The particulars of sale were:—Average standard, 111*l.* 1s.; average produce, 6¾; average price per ton, 4*l.* 16s.; quantity of fine copper, 202 tons 5 cwts. The following are the particulars:—

| Date. | Tons. | Standard. | Produce. | Price per ton. | Ore copper. |
|---|---|---|---|---|---|
| April 9 | 1875 | £116 15 0 | 6⅝ | £4 19 6 | £74 17 0 |
| „ 23 | 4930 | 119 12 0 | 5⅞ | 4 5 0 | 72 12 0 |
| „ 30 | 2950 | 113 2 0 | 6⅝ | 4 15 0 | 71 14 0 |
| May 7 | 3652 | 110 14 0 | 7½ | 5 3 6 | 72 5 0 |
| „ 14 | 2971 | 111 1 0 | 6¾ | 4 16 0 | 70 12 6 |

Compared with last week's sale, the decline has been in the standard 1*l.* 10s., and in the price per ton of ore about 2s. Compared with the corresponding sale of last month the decline has been in the standard 3*l.* 10s., and in the price per ton of ore about 3s. 6d.

At the Swansea Ticketing, on Tuesday, 2682 tons of ore were sold, realising 33,734*l.* 6s. The particulars of the sale were—Average standard, 91*l.* 19s.; average produce, 16½; average price per ton, 12*l.* 11s. 6d.; quantity of fine copper, 432 tons 9 cwts. The following are the particulars of the sales during the past month:—

| Date. | Tons. | Standard. | Produce. | Price per ton. | Ore cop. |
|---|---|---|---|---|---|
| April 14 | 2501 | £ 97 13 0 | 13 | £10 9 6 | £80 12 6 |
| „ 28 | 1567 | 96 18 6 | 12 7-16.. | 9 15 6 | 78 15 0 |
| May 12 | 2682 | 91 19 0 | 16½ | 12 11 6 | 78 0 0 |

Compared with the last sale the standard is about stationary, the tendency being upward. Compared with the corresponding sale of last month, the decline has been—In the standard 1*l.* 10s., and in the price per ton of ore about 4s. 6d. Of the 2682 tons sold on Tuesday, 1086 tons were British ores, which gave an average produce of 9¾, and sold at an average standard of 98*l.* 15s. 6d. = 7*l.* 9s. 6d. per ton of ore; the remaining 1596 tons were foreign ores, which gave an average produce of 20 7-16, and sold at an average standard of 89*l.* 14s. = 16*l.* 0s. 6d. per ton of ore. On May 26 there will be offered for sale 2610 tons of ore, from Berehaven, Chili, Cobre, Cake Copper, Knockmahon, Yudanamutana, Great Northern of Australia, Laxey, and Kanmantoo.

At the Devonshire Great Consolidated Copper Mining Company annual meeting, on Tuesday (Mr. W. A. Thomas in the chair), the accounts for the year ending March 2 showed a cash balance of 21,567*l.* 1s. 5d. During the twelve months the ore sold has realised 118,479*l.* 9s. 7d., out of which 42,396*l.* has been paid in mine cost; 55,296*l.* has been paid to the shareholders in the shape of dividends, being equal to 54*l.* on each 1*l.* share; and there is 21,567*l.* 1s. 5d. available cash balance. The quantity of ore sold has exceeded that of last year by nearly 3767 tons, and the value has increased by 16,469*l.* 3s. 11d., although on the average 6*l.* 5s. 5d. per ton less for the fine copper in the ore was paid than in the preceding year. Capt. James Richards reported that the stock of ore in reserve was 71,698 tons, being 5918 tons in excess of the quantity last year. The interesting details appear in the Supplemental Sheet to this day's Journal.

At the Minera Mining Company meeting, on May 1, the directors declared a dividend of 7*l.* per share, on the profits of last Lady-day quarter—making 114*l.* 18s. already paid on each 25*l.* share.

At the Great Wheal Fortune meeting, on May 6, the accounts showed a credit balance of 2644*l.* 8s. 3d. A dividend of 1348*l.* (15s. per share) was declared, carrying over 378*l.* 3s. 8d. The profit on the quarter's working was 2198*l.* 7s. 7d. The salary of Capt. Joseph Vivian, the manager, was increased to 16*l.* 16s. per month; a present of 5*l.* 5s. each was made to the purser and the two underground agents; and, on recommendation of Mr. Pinckney, a donation of 10s. 10s. was made to the fund for the sufferers by the late accident at Botallack Mine. Capts. J. Vivian, N. T. Miners, and T. George reported on the mine. The number of men employed on tutwork was 114; kibble fillers and landers, 23; at surface, including enginemen, engineers, smiths, carpenters, &c., 65; on the dressing-floors, men, boys, and girls, 230—568 persons. The returns for the ensuing three months will be about 110 tons of black tin.

At the Great Wheal Busy special meeting, yesterday (Mr. Pinner in the chair), convened for the purpose of determining on the division of the sett by separating the Boscawen Mine, and henceforth conduct the same as a distinct adventure. The holders of upwards of 5000 shares were represented. Resolutions in favour of the proposed scheme, and for arranging the necessary details for carrying it into operation, were unanimously passed. The undertaking was divided into 6000 parts or shares (the same number as those in Great Wheal Busy), which are apportioned *pro rata* to the present adventurers in Great Wheal Busy. Details will appear in next week's Journal.

At Nant-y-Iago Mine meeting, yestesday (Mr. Dunsford in the chair), the accounts for the six months ending with costs for March showed a debit balance of 415*l.* 11s. 3d. A call of 5s. per share was made. The Chairman congratulated the shareholders upon the highly satisfactory report of Capt. Roach. From careful estimates it appeared the ground in reserve was sufficient to produce enough ore to leave a small monthly profit. The shaft would be immediately sunk for another level, and, if the lode continued to improve as it went down from the 20, there was no doubt the mine would be a profitable one when the 30 was driven. Mr. Grimmett said he had visited the mine since the last meeting, and was perfectly satisfied with the manner in which everything was being carried out. He felt satisfied it would eventually become a valuable property. Capt. Roach, in explaining the workings of the mine, stated that the lode was steadily improving in character and productiveness, and he had no doubt that a further improvement would take place when another level was reached. He estimated that the ore ground laid open in back of the 20 would produce ¼ ton of lead and blende per fm.—that he considered a most moderate computation. A vote of thanks to the Chairman terminated the proceedings.

At the North Roskear Mine meeting, on Tuesday, the accounts for Feb. and March showed a debit balance of 130*l.* 14s. 4d. It was resolved to erect a winding-engine without delay. Capts. Vivian, Angove, and Hosking reported upon the various points of operation.

At the Bryn Gwiog Mine meeting, on Tuesday (Mr. Richard Hallett in the chair), the accounts showed a credit balance of 337*l.* 0s. 2d. Details in another column.

At the Long Rake Mine meeting, on Tuesday (Mr. Richard Hallett in the chair), the accounts showed a debit balance of 573*l.* 18s. 10d. A call of 30s. per share was made. Details in another column.

At Roskearnowth Mine meeting, on Tuesday, the accounts showed an expenditure of 113*l.* 14s. 1d. A call of 1*l.* per share was made. The appointments made were—Mr. T. W. Field, purser; Capt. Joseph Vivian, manager; Messrs. Williams, Willyams, and Co., bankers; and Messrs. Hutchinson and Percival, surgeons. It was resolved that a pumping and winding-engine be erected. Capts. Joseph Vivian, Richard Angove, and Francis Hosking reported upon the various points of operation. They consider the Wheal Wellington old engine-shaft to be in a good situation for the erection of a steam pumping-engine, for the permanent working of the mine.

At West Grylls Mine meeting, on Tuesday (Mr. S. Higgs, jun., in the chair), the accounts showed a credit balance of 78*l.* 5s. 7d. Capt. Curtis was appointed managing agent, at 3*l.* 3s. per month, and Capt. John White second agent, at 5*l.* 5s. per month, on the understanding that he devotes his whole time to the mine. Capt. John Curtis reported upon the various points of operation. They have still several copper and tin lodes standing to the north and south of their present workings, and he considers after the mine is developed, West Grylls will be second to none in this district.

At the South Condurrow Mine meeting, on Wednesday (Mr. Weston in the chair), the accounts ending with April costs showed a debit balance of 613*l.* 5s. 10d. A call of 2s. per share was made. Details in another column.

At the Holmbush Mine meeting, on Wednesday (Mr. J. Procter in the chair), the accounts showed a balance of liabilities over assets of 244*l.* 7s. 9d. A call of 5s. per new share was made. Details in another column.

At West Maria and Fortescue Consols meeting, on May 8, the accounts showed a debit balance of 470*l.* 12s. 10d. A call of 1s. per share was made. The salary of Capt. John Key was advanced to 5*l.* 5s. per month. A bill in Chancery, filed by Mr. Paul Ninnis, on behalf of himself and all other the shareholders except the defendant, against Mr. John Bayly, was repudiated by the shareholders present and represented, 40 in number, and the proceedings of Mr. Bayly in employing Mr. S. Cater, as his attorney to defend the suit, on behalf of the company, was approved.

At the West Wheal Frances meeting, on May 7, the accounts showed a debit balance of 929*l.* 4s. 7d. A call of 2*l.* per share was made. Capt. Chas. Thomas and J. Mayne reported on the mine: "The new engine-house for the stamping-engine is nearly completed, and both this and the new pumping-engine will be set to work as soon as possible, after which the returns of tin will be considerably increased."

At Calvadnack Mine meeting, on May 7, the accounts showed a debit balance of 270*l.* 6s., which was carried on. Capt. Chas. Thomas and Son, J. Cock, and H. Arthur reported on the mine.

At Charlotte United Mines meeting, on May 1 (Mr. Joseph Phillips in the chair), the accounts for the three months ending March showed a debit balance of 175*l.* 4s. 2d. A call of 6s. per share was made, payable in two instalments. Messrs. T. P. Tyacke and H. Forrester were added to the committee of management. It was resolved that application should be again made to the lords, requesting that they would, under the adverse circumstances, and considering the heavy expenses the shareholders had incurred in exploring and developing the mine, abandon for the present all claims for dues. A special vote of thanks was passed to the Chairman, for what he has done in advancing the interests of the shareholders. The agents' report stated that there were many places in the upper levels that they would like to try on tutwork and tribute, as they had found many bunches of ore near the gossan. They recommended King's whim-shaft to be sunk to the 50 with all speed, for ventilation and discharging the stuff from the south lode; also the 50 cross-cut south to be driven to intersect Wheal Pleasant lode (about 23 fms.), which is a very important feature. From what had been done on this lode in the back and bottom of the adit and the 10, they had no doubt but they would find a productive lode.

At Great Wheal Baddern meeting, on May 11, the accounts showed a debit balance of 1442*l.* 13s. 3d. A call of 10s. per share was made. The outstanding calls amount to 578*l.* 3s.: a special meeting is to be held, to forfeit all shares in arrear. The committee state that Capts. J. Hampton and J. Jenkin will be prepared to raise at least 3 tons of tin per month soon after the engine is fairly at work, which they hope will be in about a month.

At Alfred Consols Mine meeting, on April 21, the accounts showed a debit balance of 3079*l.* 10s. 9d. A call of 13s. 6d. per share was made: 198 shares were relinquished. Mr. T. W. Robertson, of Hayle, was appointed purser, in place of Mr. H. Noell, deceased. The operations in the eastern part of the mine are to be suspended. Capts. J. Thomas, T. Bawden, and W. Teague "for the future working strongly recommend that vigorous operations be continued in Wheal Alfred district—the sinking of Alfred, engine, and Falmouth shafts; the driving of the 155 east, and all the present operations west of Painter's shaft. We consider that by carrying out these points there is a good probability of opening up a profitable mine."

LEEDS, MAY 14.—In Mining Shares more activity has prevailed, and a fair amount of business has been transacted, without any material alteration in prices. From the favourable news received from some of the dividend and progressive mines, and the present low price of some of these shares, if the reports are practically and speedily realised so as to result in dividends, an early advance may be looked for. Hebden Moor Lead Mining Company (Limited), in 20,000 shares, of 1*l.* each: at a meeting held in Leeds last week the directors were enabled to declare a dividend of 6d. per share, having paid one of 1s. 6d. a few weeks since. The mine is now in full and vigorous operation, with a full complement of men, is looking well, and yielding a fair quantity of ore.—JOHN GLEDHILL AND CO.

LEEDS, MAY 14.—During the last week the Mining Market has been exceeding firm, with a good demand for Wheal Prudence, Cornubia, Brea Consols, and others. In Cornubia the prospects are so good that the shares should be bought at once.—EDWARD BROOK, 5, Bank-street, Leeds.

## LEAD ORES.

Sold on the 8th May.

| Mines. | Tons. | Price per ton. | Purchasers. |
|---|---|---|---|
| Dyngwm | 27 | £12 4 0 | Walker, Parker, & Co. |
| Aberdovey | 8 | 11 11 6 | A. Eyton. |
| Cargoll | 85 | 16 10 0 | — |

Sold on the 9th May.

| | | | |
|---|---|---|---|
| Wheal Mary Ann | 16 | 25 0 0 | Pontifex & Wood. |
| ditto | 16 | 25 0 0 | Stock & Co. |
| ditto | 15 | 25 0 0 | J. & J. Williams. |
| ditto | 26 | 13 5 0 | ditto |

Sold on the 14th May.

| | | | |
|---|---|---|---|
| Maesyrerwddu | 60 | 13 15 6 | A. Eyton. |
| Coetia Llys | 100 | 14 0 6 | Walker, Parker, & Co. |
| Deep Level | 8 | 12 12 0 | A. Eyton. |
| Rhoesmor | 10 | 12 7 6 | ditto |
| Parry's | 31 | 12 16 6 | Walker, Parker, & Co. |
| Bryn Gwiog | 45 | 12 17 6 | ditto |
| Long Rake | 15 | 12 15 6 | A. Eyton. |
| Holywell Level | 7 | 14 8 6 | ditto |
| North Henblas | 10 | 12 1 6 | Walker, Parker, & Co. |
| Minera Union | 15 | 12 3 6 | Newton, Keates, & Co. |
| Dyliffe | 38 | 12 9 0 | A. Eyton. |
| ditto | 40 | 12 8 0 | ditto |
| Llangynog United | 37 | 12 4 6 | Newton, Keates, & Co. |
| Park | 12¼ | 12 4 6 | ditto |
| ditto | 12½ | 12 4 6 | Walker, Parker, & Co. |
| Nant-y-Iago | 20 | 11 17 6 | Newton, Keates, & Co. |
| Bryntail | 2½ | 11 2 6 | Walker, Parker, & Co. |
| Orsedd | 5 | 12 7 0 | A. Eyton. |
| Llanerchymsar | 25 | 12 17 0 | Newton, Keates, & Co. |

## SILVER ORES.

Sold by tender, by Messrs. James and Shakspeare, of Austinfriars, London, on May 15.

| Mine. | Tons. | Price per ton. | Purchasers. |
|---|---|---|---|
| Talisker Mine (Australia) | 30 | £30 12 0 | Sims, Willyams, & Co |

## BLACK TIN

| Mines. | Tons | c. | q. | lbs. | Price per ton. | Amount. | Purchasers. |
|---|---|---|---|---|---|---|---|
| Sold on the 5th May. | | | | | | | |
| Leeds & St. Aubyn | 1 | 13 | 2 | 7 | £89 0 0 | £ 133 0 6 | Chyandour. |
| ditto | 0 | 7 | 3 | 26 | 65 0 0 | 25 18 6 | ditto |
| ditto | 0 | 15 | 1 | 10 | 64 10 0 | 49 9 0 | ditto |
| Sold on the 9th May. | | | | | | | |
| Kitty (St. Agnes) | 17 | 1 | 3 | 14 | — | 1136 14 6 | — |
| Guriyn | 4 | 3 | 3 | 8 | 65 10 0 | 274 10 0 | ditto |
| Sold on the 11th May. | | | | | | | |
| Redmoor | 5 | 0 | 0 | 0 | 64 5 0 | — | Calenick Co. |
| Gt. Wh. Vor Utd. | 27 | 9 | 3 | 20 | — | 1964 6 3 | — |
| Sold on the 13th May. | | | | | | | |
| St. Day United | 32 | 16 | 1 | 11 | — | 1849 14 2 | — |

## COPPER ORES.

Sold at LIVERPOOL, by Martyn, Dennis, and Co., ex *Caldwell*, on the 27th April.

| | Tons. | Price per ton. | Purchasers. |
|---|---|---|---|
| Laxey Mines (Isle of Man) | 93¼ | £4 8 3 | St. Helen's Co. |

## COPPER ORES.

Sampled April 22, and sold at Swansea May 12.

| Mines. | Tons. | Produce. | Price. | Mines. | Tons. | Produce. | Price. |
|---|---|---|---|---|---|---|---|
| Cobre | 100 | 12¾ | £9 14 6 | Bolivian Ore.. | 72 | 15¾ | £12 3 0 |
| ditto | 95 | 13¼ | 9 15 0 | ditto | 46 | 15½ | 35 10 0 |
| ditto | 92 | 12⅝ | 9 11 0 | ditto | 40 | 14 | 34 12 6 |
| ditto | 99 | 12¾ | 9 2 0 | Berehaven | 100 | 11 | 8 9 0 |
| ditto | 95 | 12⅞ | 9 11 6 | ditto | 79 | 11¼ | 8 12 0 |
| ditto | 63 | 22 | 17 11 0 | ditto | 114 | 10¼ | 7 17 0 |
| ditto | 75 | 20¼ | 15 10 6 | ditto | 98 | 10⅜ | 7 19 0 |
| ditto | 74 | 20 | 15 7 0 | Connorree | 57 | 3½ | 2 5 0 |
| ditto | 30 | 35½ | 27 12 0 | ditto | 5 | 40 | 30 7 6 |
| ditto | 14 | 59⅜ | 45 2 0 | ditto | 3 | 45¼ | 34 15 6 |
| ditto | 12 | 60 | 45 12 0 | ditto | 49 | 3⅜ | 2 10 0 |
| Knockmahon | 81 | 11⅝ | 8 15 6 | ditto | 30 | 7½ | 5 6 0 |
| ditto | 40 | 11½ | 8 17 0 | ditto | 3 | 13¼ | 9 10 6 |
| ditto | 45 | 11⅝ | 8 13 0 | Cape Copper | 38 | 37½ | 29 10 0 |
| ditto | 80 | 11½ | 8 19 0 | ditto | 48 | 28 | 22 7 0 |
| ditto | 47 | 11¼ | 9 3 0 | ditto | 30 | 23 | 18 4 0 |
| ditto | 80 | 11½ | 8 18 0 | Spectakel | 50 | 40¼ | 32 3 6 |
| ditto | 79 | 11½ | 8 17 0 | ditto | 44 | 38½ | 30 16 0 |
| ditto | 90 | 5¼ | 3 18 0 | ditto | 6 | 33½ | 26 6 0 |
| ditto | 36 | 5¼ | 3 18 0 | Bilboa Ore | 53 | 3 | 1 16 6 |
| Bolivian Ore | 78 | 15¾ | 12 6 0 | Concordia | 14 | 14¾ | 11 10 6 |
| ditto | 77 | 14⅞ | 11 13 0 | ditto | 11 | 15½ | 12 1 6 |
| ditto | 76 | 17¼ | 13 16 6 | Kanmantoo | 8 | 47½ | 36 15 0 |
| ditto | 74 | 17⅜ | 13 11 0 | Worthing | 9 | 46¼ | 35 15 0 |
| ditto | 73 | 16¼ | 12 15 0 | | | | |

TOTAL PRODUCE.

| | | | | | | |
|---|---|---|---|---|---|---|
| Cobre | 749 | £10,000 | 8 0 | Spectakel | 100 | £ 3,121 | 15 0 |
| Knockmahon | 548 | 4,239 | 7 6 | Bilboa Ore | 53 | 96 | 14 6 |
| Bolivian Ore | 536 | 8,733 | 8 0 | Concordia | 25 | 294 | 3 6 |
| Berehaven | 391 | 3,198 | 8 0 | Kanmantoo | 8 | 294 | 0 0 |
| Connorree | 147 | 694 | 10 6 | Worthing | 9 | 321 | 15 0 |
| Cape Copper | 116 | 2,739 | 16 0 | | | | |

COMPANIES BY WHOM THE ORES WERE PURCHASED.

| | Tons. | Amount. |
|---|---|---|
| Copper Miners Company | 116½ | £1407 18 6 |
| Freeman and Co. | 192 | 2043 12 9 |
| P. Grenfell and Sons | 174½ | 3223 11 6 |
| Sims, Willyams, Nevill, and Co. | 404½ | 6245 17 6 |
| Vivian and Sons | 563¾ | 5577 12 6 |
| Williams, Foster, and Co. | 681 | 8208 17 0 |
| Mason and Elkington | 114½ | 1499 4 6 |
| Bankart and Sons | 185 | 1314 8 0 |
| Sweetland, Tuttle, and Co. | 46 | 1633 0 0 |
| Jennings and Co. | 96 | 1514 8 0 |
| Neath Copper Company | 108¼ | 1065 15 9 |
| Total | 2682 | £33,734 6 0 |

Copper Ores for sale at Swansea, May 26.—Berehaven 127, 119, 100, 95, 110, 63, 104—Chili 48, 55, 54, 53, 52, 51, 50, 49, 48, 47, 46, 45, 65—Cobre 87, 86, 85, 75, 92, 48, 45—Cape Copper Mining Company 50, 47, 44, 45, 15, 27—Knockmahon 65, 60—Yudanamutana 40, 50, 35—Great Northern Mining Company (South Australia), 46, 45, 1—Laxey 117—Kanmantoo 13, 10.—Total, 2610 tons.

AVERAGES.

| | Produce. | Price. | Standard. |
|---|---|---|---|
| British | 9¾ | £ 7 9 6 | £ 98 15 6 |
| Foreign | 20 7-16 | 16 0 6 | 89 14 0 |
| Sale | 16½ | £12 11 6 | £91 19 0 |

Totals—British, 1086; Foreign, 1596=2682 tons (21 cwts.)

## COPPER ORES.

Sampled April 29, and sold at Tabb's Hotel, Redruth, May 14.

| Mines. | Tons. | Price. | Mines. | Tons. | Price. |
|---|---|---|---|---|---|
| West Basset | 104 | £4 1 6 | Botallack | 40 | £3 16 6 |
| ditto | 101 | 3 17 6 | ditto | 15 | 8 11 6 |
| ditto | 73 | 7 6 0 | Wheal Anna | 105 | 5 14 6 |
| ditto | 68 | 7 14 6 | ditto | 15 | 2 17 0 |
| ditto | 51 | 10 13 6 | Tolvadden | 48 | 3 8 6 |
| ditto | 45 | 5 13 0 | ditto | 33 | 2 4 6 |
| ditto | 42 | 3 19 0 | ditto | 31 | 5 15 6 |
| ditto | 41 | 3 2 6 | ditto | 7 | 9 9 0 |
| Levant | 82 | 6 12 6 | Copper Hill | 47 | 6 3 0 |
| ditto | 81 | 1 1 6 | ditto | 38 | 2 3 6 |
| ditto | 80 | 5 18 6 | ditto | 32 | 1 8 6 |
| ditto | 60 | 5 6 6 | East Rosewarne | 50 | 7 8 0 |
| ditto | 42 | 6 16 6 | ditto | 32 | 11 9 0 |
| ditto | 2 | 12 0 0 | ditto | 31 | 6 3 6 |
| East Carn Brea | 60 | 4 13 0 | Guriyn | 50 | 5 2 6 |
| ditto | 51 | 4 19 6 | ditto | 38 | 5 7 0 |
| ditto | 49 | 3 16 0 | West Alfred Consols | 80 | 0 17 0 |
| ditto | 43 | 4 10 6 | ditto | 14 | 0 12 0 |
| ditto | 42 | 5 14 6 | ditto | 12 | 3 18 6 |
| ditto | 19 | 2 19 6 | Wheal Buller | 56 | 3 3 0 |
| ditto | 17 | 2 17 0 | ditto | 10 | 11 12 0 |
| Alfred Consols | 69 | 3 5 6 | North Basset | 26 | 3 15 6 |
| ditto | 68 | 4 7 6 | ditto | 24 | 2 12 6 |
| ditto | 53 | 1 8 6 | ditto | 14 | 1 9 6 |
| ditto | 30 | 4 11 6 | South Crenver | 43 | 2 1 6 |
| Prosper United | 110 | 3 11 0 | ditto | 15 | 6 8 0 |
| ditto | 77 | 2 15 0 | East Alfred Consols | 36 | 3 18 6 |
| Par Consols | 58 | 4 15 0 | South Carn Brea | 25 | 2 17 6 |
| ditto | 54 | 9 2 6 | Wheal Agar | 20 | 5 5 0 |
| ditto | 47 | 5 9 6 | North Frances | 17 | 5 11 0 |
| Wheal Margery | 54 | 2 3 0 | West Wheal Trevelyan | 17 | 3 19 0 |
| ditto | 46 | 7 3 6 | Wheal Florence | 14 | 8 12 6 |
| ditto | 45 | 2 9 0 | St. Aubyn and Grylls | 4 | 4 1 6 |
| ditto | 5 | 7 14 0 | Wheal Trenwith | 2 | 11 12 6 |
| Botallack | 91 | 8 0 6 | Castle and Boswidden | 1 | 41 7 6 |

TOTAL PRODUCE.

| | | | | | | |
|---|---|---|---|---|---|---|
| West Basset | 524 | £2958 | 15 6 | West Alfred Consols | 76 | £ 98 | 0 0 |
| Levant | 347 | 1734 | 9 6 | Wheal Buller | 66 | 292 | 8 0 |
| East Carn Brea | 281 | 1258 | 18 6 | North Basset | 64 | 181 | 16 0 |
| Alfred Consols | 220 | 736 | 5 0 | South Crenver | 58 | 185 | 4 6 |
| Prosper United | 187 | 602 | 5 0 | East Alfred Consols | 36 | 141 | 6 0 |
| Par Consols | 159 | 1025 | 11 6 | South Carn Brea | 25 | 71 | 17 6 |
| Wheal Margery | 150 | 594 | 18 0 | Wheal Agar | 20 | 105 | 0 0 |
| Botallack | 146 | 1011 | 18 0 | North Frances | 17 | 94 | 7 0 |
| Wheal Anna | 120 | 643 | 17 6 | West Wh. Trevelyan | 17 | 61 | 4 0 |
| Tolvadden | 119 | 483 | 0 0 | Wheal Florence | 14 | 130 | 15 0 |
| Copper Hill | 117 | 417 | 6 0 | St. Aubyn & Grylls | 4 | 16 | 6 0 |
| East Rosewarne | 113 | 927 | 16 6 | Wheal Trenwith | 2 | 23 | 5 0 |
| Guriyn | 88 | 459 | 11 0 | Castle & Boswedden | 1 | 41 | 7 6 |

Average Standard..... £111 1 0 | Average Produce ..... 6¾

Average Price per ton..... £4 16 0

Quantity of Ore ..... 2971 tons | Quantity of Fine Copper, 202 tons 5 cwts.

Amount of Money ..... £14,287 8 6

LAST SALE.—Average Standard..... £110 14 0.—Average Produce..... 7⅛

Standard of corresponding sale last month, £116 15 0.—Produce, 6⅝.

COMPANIES BY WHOM THE ORES WERE PURCHASED.

| | Tons. | Amount. |
|---|---|---|
| Vivian and Sons | 479½ | £2670 2 0 |
| Freeman and Co. | 136½ | 757 4 9 |
| Grenfell and Sons | 310 | 1813 2 6 |
| Sims, Willyams, and Co. | 445 | 2263 1 0 |
| Williams, Foster, and Co. | 331 1-6 | 1757 6 3 |
| Mason and Elkington | 216⅝ | 1008 18 0 |
| Bankart and Sons | 92 | 521 12 0 |
| Copper Miners' Company | 329¼ | 1516 2 0 |
| Charles Lambert | 502 1-6 | 1514 11 9 |
| Sweetland, Tuttle, and Co. | 16½ | 86 14 3 |
| Neath Copper Company | 112 | 429 4 0 |
| Total | 2971 | £14,287 8 6 |

Copper ores for sale on Thursday next, at the Royal Hotel, Truro.—Mines and Parcels:—Devon Great Consols 216—Phœnix Mines 484—East Caradon 480—New Wheal Martha 426—Hingston Down 405—Marke Valley 400—Wheal Edward 222—Bedford United 206—Kelly Bray 206—Holmbush 190—Wheal Friendship 182—Wheal Yarner 175—East Wheal Russell 152—Wheal Emma 132—Brookwood 100—Lady Bertha 86—Crebor 82—Collacombe 27—Puradon 25.—Total, 6146 tons.

Copper ores for sale on Thursday week, at the Royal Hotel, Truro.—Mines and parcels.—South Caradon 484—West Caradon 466—Great Wheal Busy 441—North Treskerby 407—Clifford Amalgamated 332—Fowey Consols 328—Wheal Polmear 201—North Downs 198—Craddock Moor 159—St. Day United 100—South Crinnis 53—Barra Barra 35—Tredinnick's Ore 35—Wheal Damsel 18—North Phœnix 7—Trevethan's Ore 6—Barratt's Ore 5—Aver's Ore 2.—Total, 3276 tons.

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| 250,000 | " | " | " | 300 |

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## Notices to Correspondents.

*** Much inconvenience having arisen in consequence of several of the Numbers during the past year being out of print, we recommend that the Journal should be regularly *filed* on receipt: it then forms an accumulating useful work of reference.

WHEAL FRIENDSHIP.—Allow me to correct an error of one of your informants, which appeared in last week's Journal, relative to the breaking of one of the pumping cranks at Wheal Friendship. He states the water-wheel to be 40 feet in diameter, while it is 51 feet in diameter, and 12 feet breast. He also says, "surely there must be something wrong in the construction or metal." I think if your informant knew but as much about the construction of the crank, or whether the metal be good or bad, as he knew about the diameter of the water-wheel, he should have better informed himself before writing to the Journal.—MINER.

EAST WHEAL FORTUNE.—Can anyone give me information respecting this mine? I can get no replies to letters addressed to the purser, Exeter, though the locality of the sett is highly spoken of.—R. H.: *Ireland, May* 10.

EAST CAMBRIAN GOLD COMPANY.—We cannot publish the letter from Capt. Taylor, the late secretary; the contents are too personal, and refer to matters which chiefly interest the directors and the solicitor. As a meeting of shareholders will be held next week, Capt. Taylor will then have an opportunity of explaining his views, should he feel disposed.

"A Constant Reader."—The offices of the North Minera and Trimley Hall Mines are at Messrs. T. P. Thomas and Son's, 2, Crown-court, Threadneedle-street, E.C., London, Mr. C. W. W. Thomas being the secretary.

PROFITS ON MINING.—"J. C. G." can better find what he requires by referring to the list of Dividend Mines in the last page of the Journal.

CRANE MINE.—"R. J. L." (Liverpool).—The office of the company is at Gresham House, City, where the secretary will give information respecting the shares, and, perhaps, the other matter required.

LIABILITY OF SHAREHOLDERS.—"J. B." should consult some experienced mining agent. We cannot insert his letter, or give him satisfactory information.

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**THE MINING JOURNAL**
**Railway and Commercial Gazette.**

*LONDON, MAY* 16, 1863.

If there be one branch of industry more than another in which it is generally supposed that this country excels others, it is the manufacture of iron. Within the last hundred years the production of iron in this country has increased 250 fold. Iron, in some condition, has been employed for the most diverse purposes. Rivers are bridged with iron, houses are built of iron, our streets are paved with iron, and a net-work of iron roads extends throughout the whole country. Not only are crops reaped with iron tools, but land is now tilled with iron implements. Iron ships are no longer novel or wonderful, and our coast defences are now likely to be cased in an armour of iron mail.

All these uses of iron are large ones, involving a gigantic consumption, and hence the astounding increase in the production of this metal, 5,000,000 tons being its probable extent at the present time. It seems, therefore, somewhat strange, with these facts before one, to find the decline of British iron manufacture made the subject of discussion in foreign journals. Yet such is the case, and the subject is one that deserves earnest attention, inasmuch as our national prosperity and our national defences may now be regarded as resting to a very considerable extent upon the manufacture of iron.

What, then, can be the decline in the manufacture of iron in a country where the production is so vast, its increase so steady, and where within the last few years several entirely new sources of production have been discovered and rendered practically available? It is in the quality of the iron produced. The stimulus given to the iron manufacture by the introduction of railways, and the application of iron to the uses above mentioned, had the effect of directing attention almost exclusively to the quantity of the production. This influence has been almost universal. Even in the South Staffordshire district, that has long been so famous for a superior quality of iron, it has been exercised, and with results that are far from satisfactory. At the recent meetings of ironmasters at Dudley and Wolverhampton it was stated that native ores are becoming so scarce as very much to imperil prosperity. In this respect, North Staffordshire, the Forest of Dean, and the Cleveland districts have the advantage over South Staffordshire, and the only chance for the iron trade in this locality was considered to be a return to the system of making only a first-class quality of iron.

The necessity of a better quality of iron than is generally made, or of a larger supply of good iron suitable for such uses as armour-plates, is now very generally felt, but it is not by any means so clear how it is to be obtained. The suggestion that has been thrown out with regard to the establishment of works by the Government, for the purpose of manufacturing iron for that purpose, is one that is very much in opposition to the general tendencies of the country, and it is not one that affords great promise of success. In the first place, it has to be decided what it is that determines the goodness or badness of iron. Is it a fact that the application of the hot-blast has necessarily led to a deterioration in the quality of iron, or is that deterioration merely the result of using inferior ores, which, while they can be worked by aid of the hot-blast, cannot be worked by the cold-blast system?

This is to a great extent an open question; so, likewise, is it a question whether the ordinary kinds of pig-iron now produced cannot be made to produce a better quality of malleable iron. It is surprising that the circumstances which determine the quality of iron should be so little known, and it may also be added so little considered, in a country where the manufacture of iron is of such enormous importance. If it be really the use of the hot-blast system that causes the inferiority of the iron now made, it is not to be wondered at that there is a great difference, in this respect, between the iron of the present day and that made 20 years ago. Then the production of cold-blast iron amounted to 770,000 tons, now it is only 150,000 tons; then the production of hot-blast iron amounted to 630,000 tons, now it is 4,500,000 tons. At the former time the ratio of cold-blast to hot-blast iron was as 1:0·8, now it is as 1:30.

At the present time, when there is a growing demand for the better kind of tough malleable iron, and in the absence of any definite ideas as to how that demand is to be provided for, it appears to be a very favourable opportunity for enquiring into some of the questions above mentioned, if not into the general circumstances of the production of iron. Such an enquiry, conducted by competent men, could not fail to be of very great value at any time, and at the present it would be particularly appropriate. It would serve to place the principles of the manufacture of iron in a clearer light, and remove many defective and false opinions that are now entertained with regard even to familiar processes. Take, for instance, the use of manganese in the manufacture of steel; how little is known of the real influence it exercises. Is manganese an essential constituent of steel? or does its presence in steel merely counteract the deteriorating influence of other substances present in the metal? Does all good steel contain manganese or not? or does the influence of manganese in improving the quality of steel consist merely in its acting as a detergent during the manufacture? All these, and many similar questions, have been answered with more or less sufficient foundation, both one way and the other; but it may without danger be considered that the answers hitherto given have not been conclusive, and that the investigation of such questions as these in the manner above suggested would be a more wholesome and beneficial exercise of Government influence than the establishment of ironworks.

In France, the chemistry of iron and steel has lately attracted the attention of some of the most distinguished men. In some cases the results obtained are doubtful, or rather the questions investigated are undecided; such, for instance, the existence of nitrogen in steel as an essential constituent. But a very interesting series of experiments has lately been published by M. CARON in regard to the influence of manganese. Operating upon different kinds of pig-iron, prepared with known proportions of sulphur, phosphorus, and silicium, he has ascertained that manganese has no influence in effecting the separation of phosphorus, but that it effects the separation of both sulphur and silicium in the presence of oxide of iron; so that according to these results it may be inferred that manganese acts, in part at least, as a purifier more than directly as an alloy. There are, indeed, some facts which are in direct opposition to the opinion that the presence of manganese in iron or steel improves its quality. As regards the separation of sulphur and silicium, however, the experiments of M. CARON appear to be decisive, and as both these substances are well known to deteriorate the quality of steel, the influence of manganese in improving its quality may be reasonably ascribed to its power of separating these substances.

There are some other recent results connected with this subject which are highly interesting, and which we purpose noticing on a future occasion.

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The great interest which has been excited by the recent discovery of the extraordinary vein of green slate at Llanfair, near Harlech, has occasioned a multitude of enquiries as to the causes producing such deposits, and the conditions under which they are formed. Notwithstanding the ordinary veins of slate are to be found in parallel runs extending in a general east and west direction from Bangor to Denbighshire, there is scarcely to be found anywhere in Carnarvonshire, with one exception, a vein of green slate of any real commercial importance. At the late ASSHETON SMITH'S quarry a few green slates of inferior quality and colour are occasionally found, but of so little importance are these considered in a business point of view, that they are allowed to pass amain among the ordinary produce of the quarry. The same may be said of Col. PENNANT'S.

At the Tynywerglodd Quarry, in the Vale of Nantlle, a small vein of green slates, of very good colour and quality, is found, but either the difficulties of working are so great, or the vein is so small and unremunerative, that for a long time, until lately, the quarry has been totally unworked. The Penyrossedd Quarry, contiguous also to the same valley, occasionally produces a few green slates; but such is the uncertain character of the operating cause which produces the green colouring matter in the whole of that district, that instead of a continuous and uniform vein of green slate, at once an article of extreme beauty and double value, it becomes a source of rapid deterioration in appearance and value. Nearly the whole of certain veins of slate in that vale are so disfigured by spots and bands of intruded matter, producing striped slates, that they have to be sold invariably at a reduced price. So particoloured are some of the slates there, that they can only ordinarily be sold in remote and out of the way places in the eastern and north-eastern extremities of the kingdom. We are now, it will be seen, referring to the quarries on the Bangor range, including also those to be found in the Nantlle Vale. The only exception of importance to which we need advert, is that of the Royal Bangor Quarries, in the vicinity of Col. PENNANT'S; and here there is a regular and uniform vein of green slate of rare colour and quality, and of a fair average breadth. We believe we have now enumerated every vein of green slate, whether of any real importance or not, in Carnarvonshire.

The Festiniog district does not, so far as we are aware, produce any green slates at all, and, therefore, from the Nantlle Vale, in which a few green slates are occasionally found, as we have stated, we must pass over the intermediate district of about 18 miles in a direct line, before we come to the true green slate district of Harlech, whose veins were at one time obviously washed by the waves of the ocean on that part of the coast now known as Cardigan Bay. Harlech, which is a corruption of the original Welsh word Arlech—"lechi" being in English "slate"—evidently points to the knowledge possessed by the ancient Welsh of the fact of the town and castle being built on the solid slate rock. The veins at this place dip into the sea going westward, and we are not aware that they are ever again seen emerging on the other side of the Bay. These veins gradually and regularly ascend from Harlech eastward, until they appear cropping out at the surface, and form the entire hill at Llanfair, the quarries of which have formed the subject of recent notices in this Journal. For all practical purposes these veins terminate at the Llanfair and Caergethan Quarries, for immediately beyond these eastward, towards Barmouth, the mountains have been so dislocated, and broken up into detached knolls and ravines, running at right angles to the slate veins, as to destroy their continuity, and no slate worthy of notice is to be found in that direction. In most of the instances we have referred to, where green slate is found the veins are generally on the south side of the slate formation, and this is the case also at the Llanfair quarries. The northern vein is a pure blue slate, but the larger southern vein, 130 yards wide, is wholly green, and we will now shortly state the causes which, we believe, have produced so unusual a deposit.

The true Cambrian formation prevails extensively in the Harlech district, and the rock overlapping and lying on the back of the great slate vein is greenstone. Both the slate and the greenstone have been in a state of semi-fluidity, and while in that condition a portion of the colouring matter of the greenstone has been absorbed by the slate, and the green tint so much prized, and now so valuable, is the result. Before this great upheaval took place, it is highly probable that the salts of the ocean were the abnormal causes which produced these effects. Since that upheaval it is obvious that these veins of slate once formed the entire cliff, against which the waves broke, although now, shut in by alluvial deposit and sand, they lie at a distance of half a mile from the shore. The circumstances to which we have now called the attention of our readers, and which have produced the results we have mentioned, do not exist in the principality or elsewhere in the same combination, and this may truly, therefore, be regarded as the great green slate district of the kingdom. The subject is one worthy of thoughtful consideration, and as such we commend it to our readers.

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We had hoped that the publication of the abstract of the documents relative to the claimants upon the HARTLEY RELIEF FUND would have satisfied all parties, and have spared the committee all further questions as to the application of the money entrusted to their care; but instead of this effect being produced, it seems that the publication of the data necessary for making calculations has but increased the number of assertions that the committee have not exercised that amount of judgment that, from their position in the commercial world, was reasonably to have been expected of them. For our own part, we are disinclined to suppose that any individuan of the committee is open to censure, well knowing that in most cases of this nature they are almost invariably guided by an *employé* or other person not forming one of the body; but, as a body, they must, of course, be considered responsible for any plan or scheme which they adopt. To presume that half-a-dozen gentlemen, promiscuously selected, should each possess the power of analysing an actuary's valuation, of successfully investing in industrial securities, and of superintending the nurture and education of a large number of widows and orphans, would be absurd; but they may fairly be expected to appoint competent and experienced officers to aid them, and to bear the responsibility which they have undertaken.

Our correspondents have regarded the Hartley Committee and their report from politico-economical, actuarial, commercial, and general points of view respectively; but we are, of course, limited to noticing communications of the two latter classes, political economy not coming within our province, and actuarial calculations being comparatively uninteresting to the non-professional reader. With regard to the commercial and general views we insert two letters, which appear much to the point, and subjoin an elaborate statement, which appears to have been prepared with some considerable care, and which gives results which certainly appear astounding, unless they be capable of some very ready means of refutation, which is not likely to occur to the casual reader. Our correspondent is intimately connected with the North Country coal trade, and assures us that he has been most liberal towards the committee; and that in calculating the interest he has not regarded trifling fractions, though in the long series of years they would have enabled him to show a larger surplus.

There remained to be provided for at the time of the accident (including posthumous children) 115 widows, 21 other adults, 163 girls, and 148 boys; consequently, there would remain at the time the committee's report was made (calculating the mortality of the children under five years at 35 per cent., and that of all others at 6, which would be about accurate), 121 adults and 293 children, for at the time of the accident there were, including posthumous children, 91 girls and 93 boys under 5 years old. There were also 1 boy 13, and 1 girl 14, who would be off the Fund on Jan. 1, 1863. The average amount paid by the committee is 7s. per week to adults, and 2s. 6d. per week to the children, or 18*l.* 5s. per annum to the adults, and 6*l.* 10s. to the children. Therefore, there will be required during 1863, 18*l.* 5s. × 128 = 2335*l.*, and 6*l.* 10s. × 293 = 1904*l.* 10s., making together 4350*l.*

At the beginning of 1864 the probability is that there will be upon the Fund 127 adults and 273 children, 7 girls going off the Fund, and the probable deaths being 12; the amount paid to them in the year will be 4092*l.* 5s. In the same way 1865 will commence with 126 adults and 243 children, 18 children going off the list by age; the amount required will be 3879*l.* The following year would commence with 125 adults and 218

children, 13 going off by age, requiring 3698*l.* 5s. The year 1867 will commence with 124 adults and 196 children (15 going off by age), requiring 3537*l.* By this time the heavy infantile mortality will have materially diminished, and in future 6 per cent. may be taken for both children and adults. To use round numbers, in each subsequent year the deaths will be about 2 adults and 5 children. It will be understood that the greater the mortality the less will be the amount which the committee will have to pay, but it will, no doubt, be universally admitted that the deaths would not be fewer than above estimated. Judging from the financial statement of the committee, and Mr. HENRY TAYLOR's statement as to the posthumous births, the deaths in the year reported upon would be about 3 adults and 12 children, which is undoubtedly higher than the average would be after the infantile mortality shall have ceased. The financial statement also shows that 6 widows were taken off the Fund in a single year by re-marriage, and further that there were about 16 deaths—all have been credited as children, so that should adults have been included it will be so many annuities of 11*l.* 15s. each in favour of the committee. Although the accounts show the heavy mortality mentioned, the subjoined estimate has been made upon the supposition of only 1 adult and 2 children dying annually after the heavy infant mortality has ceased, and the number of posthumous children has been placed in the list after the said list would otherwise be free of charge. Thus:—

| | On. | Died. | Off. | | On. | Died. | Off. |
|---|---|---|---|---|---|---|---|
| 1862 | 311 | 16 | 2 | 1870 | 119 | 2 | 21 |
| 1863 | 293 | 12 | 8 | 1871 | 96 | 2 | 20 |
| 1864 | 273 | 12 | 18 | 1872 | 74 | 2 | 36 |
| 1865 | 243 | 12 | 13 | 1873 | 36 | 2 | 29 |
| 1866 | 218 | 7 | 15 | 1874 | 25 | — | 20 |
| 1867 | 196 | 2 | 19 | 1875 | 25 | — | 18 |
| 1868 | 175 | 2 | 23 | 1876 | 25 | — | 40 |
| 1869 | 150 | 2 | 29 | | | | |

It will be seen that by this table it is only estimated that 73 children will die during the whole 15 years, which is manifestly far too low, for as there were 184 under 5 years old at the time of the accident, and 127 above that age, it follows that the expectancy of death in the first quinquennial period alone would be 69—that is to say, 61 of those under 5 years old, and 8 above that age. During this first five years 56 would go off the Fund by age, and allowing for these to bear their fair proportion of mortality there would probably remain less than 200, instead of 218 as stated in the table. During the remaining ten years 24 might be expected to die, though the table shows 14 only. These circumstances, together with the fact that 25 has been put down for the last three years, leaves annuities amounting to nearly 600*l.* in the hands of the committee to meet contingencies, and *worth* considerably more. Upon these (to the committee) very favourable bases, it will be found that the aggregate annual outlay will be:—

| | Adults. | Children. | Amount. |
|---|---|---|---|
| 1862 | — | — | Already paid. |
| 1863 | 128 | 293 | £4350 0 0 |
| 1864 | 127 | 273 | 4092 5 0 |
| 1865 | 126 | 243 | 3879 0 0 |
| 1866 | 125 | 218 | 3698 5 0 |
| 1867 | 124 | 196 | 3537 0 0 |
| 1868 | 123 | 175 | 3382 5 0 |
| 1869 | 122 | 150 | 3201 10 0 |
| 1870 | 121 | 119 | 2981 15 0 |
| 1871 | 120 | 96 | 2814 0 0 |
| 1872 | 119 | 74 | 2652 15 0 |
| 1873 | 118 | 36 | 2387 10 0 |
| 1874 | 117 | 25 | 2297 15 0 |
| 1875 | 116 | 25 | 2279 10 0 |
| 1876 | 115 | 25 | 2261 5 0 = £43,814 15 0 |
| Deduct profit on deaths and on re-marriage of widows, as by Mr. BIRKMYRE's estimate | | | 4,297 0 0 |
| Total | | | £39,517 15 0 |

It will, no doubt, be remarked that it is ridiculous to suppose that only 14 adults (of the ages of those stated in last week's Journal) and 73 children will die during the period of 15 years, but the calculation has been made on the most liberal scale, in order that the committee should be amply supplied with funds to meet every probable contingency. The calculations are, moreover, made in what may be termed the popular way: no deductions have been made for many probabilities, which actuaries well know can safely be expected by the *payors* of such annuities as the above. There can be no doubt that 35,000*l.* properly applied would have been ample to have provided all the annuities shown in the above table, and which is all the committee propose to pay, and there would still be left no less than 8150*l.* 15s., to provide for the value of the allowances to the widows and adults after the expiration of fifteen years. Thus:—

| | | | |
|---|---|---|---|
| 1863.—The committee possess, to pay the first half-year's annuities:— | | | |
| February interest on railway debentures | £1395 18 4 | | |
| Amount in Sunderland Bank | 1200 0 0 | = £2595 18 4 | |
| Deduct first half-year's annuities | | 2175 0 0 | |
| Leaving available balance | | £ 420 18 4 | |
| To meet the second half-year's annuities, the committee have:— | | | |
| Half-year's interest on 35,000*l.*, at 4 per cent. | £ 700 0 0 | | |
| Balance as above, and interest thereon | 425 0 0 | | |
| Deficiency drawn from capital | 1050 0 0 | = £2175 0 0 | |
| 1864.—Two half-years' interest | 1344 10 0 | | |
| Deficiency drawn from capital | 2747 15 0 | = 4092 5 0 | |
| In the same way there would be derived in— | | | |
| 1865.—From interest, £1235 10 0, and from capital, £2643 10 0 | | .... = £3879 0 0 | |
| 1866.— " 1131 0 0, " 2567 5 0 | | .... = 3698 5 0 | |
| 1867.— " 1029 10 0, " 2508 0 0 | | .... = 3537 0 0 | |
| [By this time 1500*l.* of the profits on deaths and re-marriages will have been added to capital.] | | | |
| 1868.—From interest, £979 15 0, and from capital, £2402 10 0 | | .... = £3382 5 0 | |
| 1869.— " 891 0 0, " 2309 0 0 | | .... = 3201 10 0 | |
| 1870.— " 750 10 0, " 2230 10 0 | | .... = 2981 0 0 | |
| 1871.— " 672 0 0, " 2142 0 0 | | .... = 2814 0 0 | |
| [By this time another 2000*l.* of the profits on deaths and re-marriages will have been added to capital.] | | | |
| 1872.—From interest, £666 10 0, and from capital, £1986 5 0 | | .... = £2652 15 0 | |
| 1873.— " 588 0 0, " 1799 0 0 | | .... = 2387 10 0 | |
| 1874.— " 516 10 0, " 1781 5 0 | | .... = 2297 15 0 | |
| [By this time the remaining 797*l.* of the profits on deaths and re-marriages will have been added to capital.] | | | |
| 1875.—From interest, £477 10 0, and from capital, £1802 0 0 | | .... = £2279 10 0 | |
| 1876.— " 396 10 0, " 1864 15 0 | | .... = 2261 5 0 | |

Thus at the end of fifteen years there would be, as stated above, 8150*l.* 10s. applicable for the widows then surviving, and not re-married, and for the adults on Class C, not more than six of whom would probably be then living, so that it will be evident that amount will be ample for them. It is well known that actuaries usually make calculations that are quite incomprehensible to the outer world, and that they undertake to make a given number of payments with an amount of money that an ordinary man of business would consider totally inadequate, but Mr. BIRKMYRE seems to have erred on the other side, for the above calculations are made in a general commercial way; and as a man of business, long intimately connected with the coal trade, I assure your readers that any person or insurance company would undertake to provide for the 136 adults and 311 children in the manner the committee propose to provide for them for 35,000*l.*, although Mr. BIRKMYRE's estimate shows 50,000*l.* to be necessary. The present balance could, consequently, be distributed thus, and yet admit of the committee's recommendations, so far as relief to the widows and orphans are concerned, being carried out to the letter:—

| | | | |
|---|---|---|---|
| Present surplus | | | £75,442 1 1 |
| Allowances | £35,000 0 0 | | |
| Education, medical attendance, and management | 4,442 1 1 | = | 39,442 1 1 |
| Unappropriated balance | | | £36,000 0 0 |

According to the committee's report only about 1700*l.* can be given to each district as a nucleus for a Permanent Relief Fund, although the above calculations show that they could have 3000*l.* each; and I am sure every competent actuary would admit that there would even then remain a surplus for future distribution "after all claims on the Hartley Fund are fully satisfied." Immediate steps should be taken by those interested to ensure the largest available amount being forwarded to each district, and to prevent the consumption of the Fund before it be too late.

As the committee have, of course, no direct pecuniary interest in the Fund, and as their indirect interest can only possibly extend to keeping a few hundred persons off the poor-rate, they are, of course, as desirous as any that general satisfaction should be given, and for this reason we believe they will be but too happy to consider any plan in order to ascertain whether it is superior to their own, and to prove the fact to the subscribers, in case of impracticable schemes being brought forward. In accordance with the request of a correspondent, upon whose data we made the remarks published in the Journal of Feb. 21, we reprint the statement then made, though it will be seen that the surplus will be somewhat lower than he assumes, owing to the annuities being diminishing, and not continously the same. He remarked that, according to Mr. BIRKMYRE's estimate, the survivors are to be supported for 15 years, in a position far above that which they would probably have occupied had the Hartley calamity never occurred, and are then to receive upwards of 15,000*l.* as allowance for their remaining interest. The unjustifiable character of such an estimate will be at once seen, and will, it is hoped, be speedily revised. Another point which must not be lost sight of is that whilst by adopting Mr. BIRKMYRE's scheme more than one-half of the surplus will have been expended, and consequently unavailable for future good; by investing in Government Three per Cents. at once the same distribution could be made, and the Fund will remain at the end of 15 years but 1500*l.* less than at present, as will be seen by the subjoined statements:—

MR. BIRKMYRE'S PLAN.

| | | |
|---|---|---|
| Present surplus | | £75,500 0 0 |
| Deduct: Mr. BIRKMYRE's valuation of allowances to survivors for next 15 years (being 2350*l.* per annum) | 35,252 0 0 | |
| Leaving available balance at end of 15 years | | £40,248 0 0 |

GOVERNMENT THREE PER CENT. PLAN.

| | | | |
|---|---|---|---|
| Present surplus | | | £75,500 0 0 |
| Deduct: Amount estimated by Mr. BIRKMYRE, as above | £35,252 0 0 | | |
| Less interest on 75,500*l.* for 15 years, at 3 per cent. | 33,750 0 0 | = | 1,502 0 0 |
| Leaving available balance at end of 15 years | | | £73,998 0 0 |
| Ditto by Mr. BIRKMYRE's plan, as above | | | 40,248 0 0 |
| Difference in favour of Government plan | | | £33,750 0 0 |

The amount distributed amongst the families of those who lost their lives is not generally considered too low, because, as it is very justly contended, it would have been most undesirable to have permitted the unfortunate occurrence of the calamity to have *improved* the position of the survivors, as this would, or might, have induced carelessness in future; but it is, we believe, the universal opinion that local railway debentures, in which the 70,000*l.* is at present invested, is not a desirable security for a charitable fund subscribed by the benevolent in every part of the country.

## THE HARTLEY RELIEF FUND.

With regard to the disposal of the credit balance of 75,442*l.* 1s. 1d. alluded in last week's Journal, and shown in the abstract of accounts contained in the committee's report, as advertised in the *Mining Journal* of April 18, it is proposed to retain 55,000*l.* for the use of the survivors of those killed by the Hartley Accident, which will leave an unappropriated balance of 20,440*l.* The 55,000*l.* is to provide for the 50,429*l.* shown in Mr. Birkmyre's valuation, with 4571*l.* added to meet three important items not included in Mr. Birkmyre's estimate—education of the children, medical attendance, expenses of management, &c., and claims still pending; and looking at the period over which the administration of the Fund is likely to extend they cannot estimate the amount required at a smaller sum. Of this 4571*l.* Mr. Henry Taylor states that over 1000*l.* will be absorbed in one year's extra allowance to the boys, who are to be kept at school until 13 instead of 12, in accordance with the resolution passed at the general committee meeting, at which the executive report was adopted.

By the plan prepared for the disposal of the 20,440*l.* surplus, it is recommended to divide it amongst the twelve districts as laid out by the Government under the Coal Mine Inspection Act; and with the view of carrying this recommendation into effect it is proposed, firstly, to ascertain from the Government Inspectors the number of coal miners in each district, or the quantity of coal raised, or the number of fatal accidents; secondly, to request the organisation of influential committees, and the appointment of three trustees in each district, to take charge of the amount to be distributed to it; thirdly, that at the expiration of six months from March 1 last the amount shall be handed over to such local committees, who are recommended to encourage the establishment of Permanent Relief Funds, and aid those already in existence; and, fourthly, that the utmost publicity be given to the intentions of the committee: any subscriber objecting to such an application of the surplus can have his proportion thereof, 5s. in the pound, on the amount subscribed by him, upon giving notice to the secretary. In the event of any surplus remaining after all the claims on the Hartley Fund are fully satisfied, such surplus is to be divided in the same way as the present surplus of 20,440*l.*

## REPORT FROM MONMOUTH AND SOUTH WALES.

MAY 14.—It cannot be said that there is any special activity to be witnessed in the Coal and Iron Trades, and things are not in that flourishing state which would admit of the description "prosperous times." The iron trade ranks first in importance; and, taking a glance at the district generally, it must be admitted that there is a considerable difference in the aspect of matters as compared with what was the case twelve months or two years ago. There is hardly a furnace or a mill that was then in operation but that is now more actively employed, and many additional furnaces, &c., have since commenced working, and give employment to hundreds of hands. There must have been a cause for this improvement, and one cannot help arriving at the conclusion that the slight advance in prices has been one of the principal elements in promoting the increased activity. There has also been, and there is, another cause—future expectation. Ironmasters and capitalists have laid out large sums of money, relying on the future development of the trade to return them handsome profits in a few years hence. In proceeding upon this principle, they have followed the result of experience as far as the history of the iron trade can be relied upon, and they deserve every reasonable countenance and success. Periods of great depression have always been followed by periods of great prosperity, and it may fairly be presumed that the rule will be verified in coming years. A period of great depression has already been experienced for several years, and the price of iron has been so low that some makers worked at a positive loss; but the loss was not so great as if the works were stopped. For the last twelve months, however, things have taken a better turn, and there are indications that the time is not far distant when the iron trade will again receive its meed of prosperity. As to the coal trade, there is an average demand for every description of coal, and many merchants have more orders on hand than can be executed; not, however, because a supply cannot be obtained from the collieries, but in consequence of the want of vessels. Freights show an upward tendency, and this is another difficulty in the way of the coalmasters, and tends to check the trade.

At the Cowbridge Petty Sessions, on Monday, Mr. Brain, manager of the Llanharry Mines, was summoned for allowing a lad under 18 years of age to work the engine. The information was laid by Mr. Thomas Evans, Government Inspector of Mines for the district. Mr. Stephens appeared in support of the information, and Mr. Carter, of the Oxford Circuit, represented Mr. Brain. The offence was admitted, and the magistrates inflicted the mitigated penalty of 20*l.* Mr. John Bethell, the proprietor of the mines, had been summoned, but the magistrates ruled that the manager was liable.

It is reported that a branch of the Bank of Wales (Limited) is about to be opened at Pontypool. This will be the third branch in connection with this new banking company.

Two or three weeks since we referred to a new undertaking which was being got up at Newport, under the title of the "Wood and Iron Shipbuilding and Repairing Company (Limited)." The prospectus has now been issued; and, judging from the influential names on the directorate, there can be little doubt of the success of the company. The capital is fixed at 50,000*l.*, in shares of 50*l.* each. The advantages which the Newport river presents for establishing shipbuilding yards have long been admitted, and it is a matter of astonishment that some enterprising firm has not occupied the ground. Hitherto, however, nothing has been done, and the new company start without any opposition on the Newport river. A company similar in its objects is being got up at Llanelly, with a capital of 25,000*l.*

The arrivals at Swansea include the Gustave Marie, from Cherbourg, with 100 tons of iron ore, for the Dowlais Iron Company; Sarah Ellen, from Bordeaux, 2026 pit props, for M. Rees and Company; Emile Marie, from Cherbourg, 88 tons of iron ore for Mr. Walters; Mary Fanny, from Hamburg, 150 tons of spelter, for P. St. L. Grenfell and Sons.

Messrs. Simons and Plews, of Merthyr Tydvil, have presented to the Master of the Rolls a petition from Mr. James Naysmith, of the Aberaman Works, Aberdare, and Mr. Thomas Evans, of Aberaman, praying for the winding-up of the North Hafod Silver-Lead Mining Company by the Court of Chancery.

Mr. C. L. Van-Tenac, C.E., of Tredegar, has just patented a new railway rolled wrought-iron sleeper; also, a system of armour-plates of hammered or rolled wrought-iron, the whole of the rivets being protected against the direct blows from the cannon shots; Mr. G. A. Huddart, Brynkir, Carnarvon, has given notice to proceed with his patent for improvements in buttons; and Mr. W. G. Valentin, of the Royal College of Chemisty, and Fred. Levick, of Blaina, have their patent sealed for improvements in generating combustible gases, and in the apparatus employed therefor.

NEATH HARBOUR.—Abstract of the trade of the port of Neath (including the Briton Ferry Docks), for the month ending April 30:—

| | No. of vessels. | Tons register. | Tons burthen. |
|---|---|---|---|
| European trade | 19 | 1,610 | 2,640 |
| Coasting trade | 245 | 18,939 | 29,794 |
| Total | 264 | 20,549 | 32,434 |

IMPORTS.—Copper ore, 4401 tons; pig-iron, 1599; iron ore, 5813; grain and flour, 315; pit and cord wood, 897; timber, 58; miscellaneous, 672=13,755 tons.

EXPORTS.—Coal, coke, and culm, 26,859 tons; copper, 213; bar-iron, 1255; tin-plates, 359; miscellaneous, 683=29,369 tons.

## SOUTH WALES INSTITUTE OF ENGINEERS.

The quarterly meeting was held at Newport, on Wednesday, under the presidency of Mr. THOMAS EVANS, F.R.S., the President for the present year. There was also a numerous attendance of members. Mr. Alexander Bassett, C.E., was nominated President for the next year, and the Vice-Presidents and the members of the Council were also nominated. After the transaction of the usual formal business, a discussion took place on Mr. Cox's paper, "On the Selection and Treatment of Coal for the Blast-Furnace;" and on Mr. Child's paper, "On the Selection of Coals for Smelting Purposes." Mr. Cox's paper was partially discussed at the Swansea meeting, and a brief notice of its principles appeared at the time in the *Mining Journal*.

Mr. Child's paper laid down three essential propositions in the selection of coals—First, their freedom from sulphur; secondly, their physical characters, as on these will depend practically their calorific power and intensity; and, thirdly, the amount and nature of ash they contain. In a chemical point of view, the presence of sulphur in the coal materially affected the working of it in the blast-furnace. Sulphur existed in coal mainly in two states—In the first, in combination with iron, which is mechanically diffused through the coal; and in the second, it is combined with carbon, hydrogen, oxygen, and nitrogen, forming one of those complex organic bodies of which organic chemistry furnishes numerous examples. Basic sulphate of iron is also found in coals. The sulphur in the state of bisulphide of iron is the most prejudicial in the blast-furnace, as only half of it can be got rid of. Sulphur contained in coal in any other state than as iron pyrites is driven off, more or less, completely by coking. When raw coal is used, a large quantity of sulphur is removed by the coal as it sinks, being exposed to a gradually rising temperature, and it is virtually coked before reaching the zone of reduction. Sulphur may be eliminated by watering or steaming the coke, or by adding salt to the coke; the latter is known as Calvert's patent, and under certain circumstances it is superior to steam or water. As to the physical characters of the coal to be used, the coals of the eastern part of the South Wales coal field are of too caking a nature for direct use in the blast-furnace. In proceeding westward the coal becomes less bituminous and caking, and at some of the Merthyr furnaces raw coal alone is used. The unpleasant faculty of decrepitation when heated rapidly under blast renders the use of the anthracite difficult, but the anthracite is well adapted for assaying. The remainder of the paper referred to the ashes of coal and coke, and their chemical properties.

Mr. Cox said: It will be in the remembrance of this Institute that the discussion at our last Swansea meeting on my paper, read at the previous Cardiff meeting, was brought to a premature conclusion because it had assumed so desultory a character that the reporters were unable to report it, and that the subject being deemed of such importance as to deserve a more complete investigation, Mr. Child, the chief opponent of the theory I had propounded, promised to embody his views in a short paper, to be read at another meeting. At the next, our last meeting at Merthyr, a paper of his was read, entitled "On the principles involved in judicious selection of coals for smelting purposes." This is the one we have now to discuss, and premising that it is that which was then promised, I have addressed myself to it to see what it contains, that it may be necessary for me, as the writer of the paper which called it forth, to answer as being contradictory or condemnatory of the theory I brought forward. It is true that it does not in any manner refer to the circumstances which originated it, nor allude to mine, except to speak of it as a preceding paper by Mr. Cox, while mentioning cursarily, but without contradiction, a statement in it the truth of which I had before understood him to call in question; still it is incumbent on me to consider his theories as put forward in opposition to mine, and looking at them in that light I address myself to their investigation. The theories Mr. Child propounds are very easy of comprehension, and the principles to guide us in the selection of Wales for smelting purposes, which we cannot avoid deducing from them, are so beautiful in their simplicity, that it seems a pity to disenchant any one from a belief in their infallibility. He tells us that sulphur exists in coals mainly in two states; now, here I am compelled to pause, and make a remark on this word mainly. It may be intended merely to protect the writer against the captious criticism of some critic who might know of the existence of sulphur in another shape, in some minute quantity, of which the writer was also aware, but deemed it unnecessary to notice from the smallness of its amount; but it may be used as a loop-hole for escape should it be shown that it does exist in some coals in quantity; as such a loop-hole it is very elastic in its power of expansion, and may be likened to a small hole in the back scene of a pantomime, through which, although scarcely perceptible to the audience, harlequin and his wand altogether disappear. As I cannot suppose it was intended for such a use, I treat it as only a protest noted against petty criticism, and proceed with my remarks. Mr. Child then tells us that sulphur exists in coal in two states, either as united with sulphur as iron pyrites, in which case it is mechanically diffused through the coal, and is, consequently, visible in the manner with which we are all familiar; or as organically united with carbon, hydrogen, oxygen, and nitrogen, in which case, although he does not say so, it is consequently invisible. He tells that in the former case one-half of it only can be dispelled by heat, while in the latter it is driven off more or less completely in the blast furnace above the zone of fusion, and is, consequently, innoxious. Now, I note here another loop-hole of expansional powers, similar to the one I observed upon before, as prepared by the word, mainly in the use of the words more or less completely; but as I cannot suppose them to be intended for any such purpose, I treat them as a similar protest against petty criticism, and proceed with the subject. It follows, therefore, from these theories, that when sulphur is visible in coal then only is it injurious, and that when it is invisible it is innoxious; that when it is visible in bituminous coals, the coking of them cannot make them so practically pure for smelting purposes as are non-bituminous coals, in which it is invisible, and that when it is invisible in bituminous coals the coking of them is a necessity forced on the ironmaster only to prevent their scaffolding in the furnace. These, I say, are the conclusions to which the theories of Mr. Child inevitably lead, which, if correct, would fully bear out the ironmaster who possesses a coal in which no sulphur is visible in that *laissez faire* system to which we are all too prone when we find an excuse for adopting it, but the belief in which, if they be incorrect, will only lull him to slumber in the false security of a fool's paradise. Mr. Child has, at the conclusion of his paper, with a modesty most rare when real, under the semblance of disclaiming the arrogating to himself the credit of being the originator of those theories, brought in the great name of Dr. Percy to father them and give them weight. Now, I shall not stop to enquire whether these theories are held by Dr. Percy or not; not that I would presume to attempt to disparage his authority or to decry his fame, but simply because it is not possible for any theory, however plausible, nor for any man, however great, to subvert the force of facts. It is to facts that we must look to enable us to form a just conclusion on this important subject. Theory is very valuable when it enables us to understand any phenomena which appear mysterious, but utterly worthless to contravene a fact. Now, these theories do not possess even the charm of novelty, although I will not pretend to say that there were many who accorded them that full belief in their infallibility which Mr. Child entertains, they were nevertheless held more or less confidently when I began the investigation of this subject, 23 years ago. At that time Mr. Child must have been a little child, yet although since then he has ceased to be a child in years, and has become a member of a learned profession, that will not justify him in treating with supercilliousness opinions formed from 23 years' active employment in avocations in which the consideration of this subject always occupied a prominent place, nor in endeavouring to pooh-pooh them down by simply repeating theories, the fallacies of which the least investigation would at any time have demonstrated. I will now shortly put before you a few facts utterly incompatible with the truth of those theories. In conducting the experiments on the railway to determine what coals contained sulphur in such a state or quantity as to make them unfit for our use. I did not (and I fear that I shall not rise in Mr. Child's estimation by the confession) take 100 grains of each coal, and, subjecting it to analysis, ascertain the quantity of sulphur it contained; neither did I ascertain the quantity of iron, and then calculating the quantity of sulphur the iron could have been united with, jump to the conclusion that the residue was innoxious; but I took 100 cwts. of coke, made from the coal, and having burnt it in the fire-box of the locomotive, collected the ashes which had passed through the tubes, and judged of the amount of sulphur it had contained in a deleterious shape by the visible injury it had done, as evinced by the quantity of copper taken from the tubes it deposited when placed wetted on a plate of iron. In the course of these experiments two coals of opposite characters were operated upon, one containing pyrites in large quantity (the rock coal of the Pontypool district), and the other containing none (the Mynyddyslwn from the neighbourhood of Blackwood), with the following results:—The ashes of the rock coal, which should, according to Mr. Child's theory, have done much harm, deposited no copper on the iron, whilst that from the Mynyddyslwyn, which should have been innoxious, did so in such quantity as fairly to electro-gild the plate. Now, let us see how far the experience of the ironmaker and ironfounder is in accordance with Mr. Child's theory, or bears out the conclusions to which the results of these experiments would lead. The rock coal of Pontypool is described by the Admiralty report as being full of pyrites, and containing 2·39 per cent. of sulphur, yet this coal makes the best, the highest priced, pig-iron the principality produces. The old coal at Pentwyn is equally full of pyrites, covering a larger surface, although in thinner plates, yet the iron formerly made at these works, and I am assured by those who made it with this coal, bore a reputation in those days as high as the Pontypool does now. So much for the first theory, that when sulphur is visible combined with iron in coal it must be eminently injurious. Now, let as see how far the other proposition holds good, that when there is none visible in coal there can be none in it noxious. Now, I will not rely upon the case of the Mynyddyslwn coal, although I suppose there is scarcely any one present who does not know that, whether with or without pyrites, it would harden to whiteness any iron which was melted with it, because as that is notoriously a red-ash coal it may be considered an exception; but I will pass at once to the white-ash coals, which, inside the eastern outcrop of the Welsh mineral basin, from a little to the east of Ebbw Vale to Aberdare, are almost all of them devoid of pyrites, and of which the coals from the different parts of each seam are identical in character, except as to the quantity of bitumen they contain. Now, we cannot very well take a piece of the coal from just above the zone of fusion of the blast-furnace, but we can do what will be the same thing—we can subject the coal to the same, or a greater, heat in a coke oven, and see what will be the result. Now, let no one imagine that the heat of a coke oven cannot be so great as that of a blast-furnace above the zone of fusion; the heat of my ovens exceeds the melting point of iron, and if it were so great in a blast furnace above the zone of fusion, scouring would be the result. The Ebbw Vale coal, which is totally free from pyrites, after being thus coked, and watered out of the oven, was found by Mr. Parry to contain 0·77 per cent of sulphur; now, if we make any reasonable allowance for the quantity the water must have driven off, we cannot calculate that if that coal had been used raw in the furnace much less than 1 per cent. of sulphur must have reached the zone of fusion.

Having thus placed before you facts which appear to me to be totally incompatible with either of the theories Mr. Child advances, I will conclude by shortly stating those which I advance. I hold that sulphur exists combined with iron in the substance of the coal itself, and that it only becomes visible when, under favourable circumstances, it has by an exosmos, or segregation, formed itself by a dry crystallisation into plates of pyrites between the facets of the coal, and that, consequently, the absence of visible pyrites is no proof of the absence of sulphur combined with iron, nor any criterion whereby to judge of its quantity. I do not go the length of asserting that when it exists in any other shape is is driven off by heat, because if it were so it would be difficult to account for the large amount of it proved, as I have stated, to exist in coke made from a white-ash coal; but I agree with Mr. Child, that when it is smelted with iron, only one-half of it can be driven off by heat; but as one-half of the remainder can be driven off by watering the coke in the oven, I advocate both coking and watering it. And I do assert that there are some coals which contain in themselves some as yet unknown power, by which all the remaining sulphur is rendered innoxious or neutralised, which power I have ventured to suggest may be cyanogen. I shall now say a few words as to the relative merits of the processes proposed for desulphurising the coke—steaming and watering the coke in the oven, and salting the coal; both of the two first drive some of it off as sulphuretted hydrogen; and as steaming, from its not cooling the coke so fast, can be longer applied, it would be more powerful than water in so doing, but there are practical objections to its use; and watering has the advantage, also, in carrying away some of it in solution as sulphate of iron. Both of these system have the advantage over salting the coal that we do understand their operation. They carry off sulphur either in the shape of a gas or of a soluble salt. Now, the salting only converts it—so Mr. Child says—into a sulphide of sodium, which remains in the coke. I find it difficult to understand, also, how it can operate on the sulphur in the body of the coal when mixed with it only in small quantities as crystals. Had the coal been ground, and the salt applied in solution, or as brine, I could better have believed in its operation, if it has any: there is, however, an opinion I will venture to give, and that is, that from the known effect of salt on silica and alumina, whether it be used as crystals or as brine, it will soon give cause to the owner of the ovens to shed some briny tears over their destruction.

Mr. ADAMS said there was one mistake in the paper. The coals of the eastern crop of the South Wales coal field had been, and continued to be, used in the raw state in the blast-furnace.

Mr. RICKARD confirmed Mr. Adam's statement, and remarked that coal with iron pyrites made the best iron after coking.

Mr. BROUGH, and several other gentlemen, stated that coal which apparently had a large quantity of sulphur was really found in practise to contain less sulphur than coal which appeared to the human eye quite free from it.

Mr. BROGDEN said they had tried the salt process of elimination at Tondu, but they found no difference at the furnace. He fully agreed with Mr. Cox that the appearance of coal was no criterion as to what sulphur it contained, and that steaming was the best mode of elimination.

Mr. CHILD replied to the arguments advanced, and a vote of thanks was passed to him and Mr. Cox for their excellent papers.

### THE LONG WALL SYSTEM.

Mr. HEDLEY's paper on the Long Wall came next under discussion. This paper described the long wall system, and the result of its working in Derbyshire, Nottinghamshire, Leicestershire, and Warwickshire. Before the discussion was proceeded with, Mr. Naysmith, jun.'s, paper on the Long Wall, Double Stall, and Pillar and Stall modes of working was read.

Mr. NAYSMITH, sen., expressed his decided approval of the pillar and stall, so far as it had come under his notice. Where were they going to have their gob walls under the long wall, more especially in a district like the Aberdare Valley, where the top, as it were, burst out? He could never believe that they could work the Aberdare coal with profit by long wall. The pillar and stall had never been fairly tried at Aberdare. In the North of England they had a system at work—the double turn—by which they ob-

tained double the quantity of coal from a given space to what was now the case at Aberdare. Whether they adopted pillar and stall or any other mode of working, they could never be able to compete properly with the North of England until they followed the plan referred to.

Mr. JOHN WILLIAMS differed with Mr. Naysmith, except as regards the larger seams. They found the long wall a great advantage, and far superior to the pillar and stall. In the Six-feet coal they found that the falls came down on the gobs, and formed good supports. They were equally as successful in the Four-feet. A greater quantity of coal could be obtained by long wall, and it was in a better state for the market.

Mr. WILKINSON said he had introduced the long wall in Mr. Powell's collieries in the Aberdare Valley, and they had been working it successfully for some years. There was less gas standing than in the pillar and stall, and there were never any complaints now of tender coal.

Mr. BEDLINGTON said he had been of opinion for some time that there was no difficulty in working coal of 6 ft., and under, by long wall. All beds of coal did not lie the same, and, therefore, it was not easy to adopt long work in every place. They were all pillar and stall men originally, and, therefore, it was quite clear that long wall was superior, or else they would not have taken the trouble to change the system.

After some observations from Mr. Brough, Mr. Naysmith, sen., and other members, a vote of thanks to Mr. Hedley closed the discussion.

### THE VENTILATION OF MINES.

Mr. JOSEPH HALE's paper on this subject was next discussed. The writer carefully reviewed the different gases found in collieries, their chemical properties, and their effects on being brought in contact with fire; also the modes of ventilation, machine or natural (the writer strongly recommended the latter, as it can always be depended upon), and copious examples were given of the dimensions of furnaces, &c.

Mr. BROUGH said he fully agreed with Mr. Hale, and he had gone through some of the formulas, and found them quite correct.

Mr. BEDLINGTON, in reply to Mr. Murphy, said that from 8 to 9 ft. was considered a good size furnace, but the dimensions mainly depended upon the depth of the shaft and other matters.

The PRESIDENT said he and other gentlemen had tried an experiment at Forchaman Colliery, and they found that a far larger quantity of air passed by, closing up the furnace as far as possible, with the exception of the grate.

Mr. GEORGE BROWN said if all the blast were brought down, as suggested by the Chairman, he did not think they could get any bars to stand. He was an advocate for large returns, but the difficulty was to keep them large. He gave an instance of an air-way at Mountain Ash which had so contracted in three days that the men were obliged to leave off work in that part of the colliery. Another strange matter he had noticed at their colliery was that blowers and falls generally happened between 1 and 5 in the morning. He (Mr. Brown) gave some further details of his experience at Mountain Ash.

Mr. R. M. TOOGOOD said they had tried a bar in puddling which had been recommended by a friend of theirs from Yorkshire, and they found it highly successful. There was a tube running with the bottom of the bar; or, in other words, the bar was tubular at the end, and a continual stream of water was kept going through.

Mr. BROUGH questioned whether such a bar would suit ventilating furnaces. As regards closing up the furnace with the exception of the bars, he trusted it would not go forth as the collective opinion of the Institute that throttling the air was a good plan.

The PRESIDENT remarked that he would be the last to recommend anything that would lessen the ventilation. He simply mentioned that an experiment had been made, in order that they might make further researches. He thought the bar mention by Mr. Toogood was of some importance.

The discussion closed with a vote of thanks to Mr. Hayle.

The following papers will be discussed at the next meeting:—"On Surface Condensation, and the Use of Distilled Water in Boilers," by Mr. Turner. "On a Coal-cutting Machine," by Mr. Frith. "Description of a Mode adopted in Sinking a Pit through Quicksand," by Mr. Glasbrook. "On the Various Systems of Working Coal in South Wales," by Mr. J. Naysmith, jun. "On Long Work," by Mr. John Williams.

Models of patent tipping machines were exhibited in the room by Messrs. Arthur and and James Rigg, Chester.

After the meeting the members dined together at the Westgate Hotel.

## THE WELSH MINERAL RAILWAYS.

In noticing the progress of various railway projects through Parliament, we stated that the mineral branches of the Carmarthen and Cardigan Railway were rejected by a committee of the House of Lords. These lines are, however, so intimately connected with the working of the western portion of the South Wales coal field as to require of us more than a passing observation.

At present, from the Swansea Valley to the extreme western limits of the coal measures, the only means of transit are the Llanelly and Llandilo Railway, which traverses the coal field from the port of Llanelly to its furthermost edge in the north, a little beyond Llandibie; and the Kidwelly Canal, which extends from Bury Port to Kidwelly, and goes several miles up the Gwendraeth Valley. Now, it is hardly necessary to state that this accommodation is wholly insufficient for the development of the minerals over so wide an area, rich in thick and valuable seams of coal and ironstone. Provision is being made to extend the Swansea Valley Railway to Dyvennock, and to connect it with the Llanelly and Llandilo Railway by throwing out a branch through one of the minor valleys. A line has also been commenced from Swansea to Pontyrdulais, on the Llanelly Railway. And, when these lines are completed many places where coal is now landed in small quantities will be fully worked; but the coal field west of the Llanelly line is without a railway. Formerly there was a line called the Carmarthenshire Railway (the Act for which was obtained so long ago as 1802), which ran from Llanelly to Castell-y-Garreg, in the parish of Llanfihangel-Aberbythic. This line was worked until circumstances arose which compelled the proprietors to abandon it, and the powers have now lapsed. The road remains, and could be converted into an excellent tramway at a comparatively small cost. There is, however, no prospect of this being done, and the only means of transit for the whole of the Gwendraeth Valley is the Kidwelly Canal, which is not equal to the traffic from three collieries. This district, with seams of coal measuring in the aggregate about 100 ft., has scarcely been worked at all, and so long as it remains without a railway it will be impossible to work it with profit. The proprietors are, therefore, very anxious for a railway, and the No. 2 Bill of the Carmarthen and Cardigan Railway, which was thrown out by a committee of the House of Lords last week, was for a line up the valley as far as Pontyberem, running parallel with the canal, but so laid down as not to interfere with it in any way, and capable of extension to Mynydd Mawr. No. 1 Bill, which was also rejected, was for a line to Mynydd-y-Garreg, the nearest outcrop of the carboniferous limestone to Kidwelly. These lines were intended to run into the South Wales Railway at Kidwelly, and would thus be in unbroken communication with Bury Port, Llanelly, and, in short, the whole railway system of the country. Merely, then, as ordinary mineral lines they would develope the coal, iron, and limestone of the district. But they were called the mineral branches of the Carmarthen and Cardigan Railway; and, although they would not have formed a direct junction with that line, they were really its natural branches. When the Carmarthen and Cardigan Railway was projected it was to convey into Cardiganshire and into the upper parts of Pembrokeshire and Carmarthenshire the coal and lime of the Gwendraeth, for all the districts named are entirely destitute of those minerals, which cannot be dispensed with either in agricultural or in mining operations. The line was then to have gone to the Gwendraeth through Llanddarog; but as the South Wales Company would save the making of about nine miles of railway, and answer every purpose, it was thought advisable to use the South Wales from Kidwelly to Carmarthen as the connecting link between the Carmarthen and Cardigan line and these branches. It will thus be clear to all who take the trouble to follow us in these remarks that the mineral branches would have been the principal sources of traffic for the Carmarthen and Cardigan line. No one who is not practically acquainted with the western counties of South Wales can form any adequate conception of the immense demand for coal and lime, particularly the latter, which is required in very large quantities for the cultivation of the damp, tenacious, clayey soil of the country, utterly unmanageable without large doses of lime frequently applied. Thousands of carts are employed during the whole of the summer in fetching lime at distances varying from twenty miles to thirty-five miles, at a cost per ton averaging 1*l.* 12s.; and if these branches were made lime could be procured at the various stations of the Carmarthen and Cardigan Railway at from 6s. to 9s. per ton. We have said nothing about the manufacture of iron in the Gwendraeth being suspended for want of railway communication, but enough has been advanced to demonstrate the necessity for these branches.

The Committee of Lords at once admitted the value of the lines, and at the same time they rejected the bills. We do not know why they did so, unless it was that Mr. Owen Bowen, the secretary of the Carmarthen and Cardigan Company, happens to be the sole proprietor of the Mynydd-y-Garreg lime quarries, and the largest shareholder in one of the Gwendraeth collieries. It was proved beyond any doubt in committee that the canal cannot accommodate three collieries now at work on its banks; and, further, that the proprietors of several collieries and mineral ground were waiting for a railway, in order either to work the minerals themselves, or to lease them for others to work. But nothing can be done without a railway. And, again, that the Trimsarran Coal and Iron Works had been purchased by a company, who are about to resume the old works, and that their extent would depend on the means afforded for the carriage of minerals. This was not all, for it was shown that the valley is divided by a ridge separating the outcrop of the coal field into two parts, each of them having about 50 feet of coal; and that the canal, assuming that it is equal to the traffic, could only accommodate the lower part; while the railway, taking a higher level, would accommodate the upper part. The cross-examination of the witnesses by the counsel who represented the Canal Company and Lord Dynevor, the only opponents who were heard, was directed to the finances of the company, but nothing new was elicited. There were some discrepancies between the returns to the Board of Trade and the published accounts of the company, which were explained to have arisen from the blank forms supplied by the Board to the company not being sufficiently comprehensive. Much stress was also laid upon the amount already spent in the construction of the seven miles of the main line now worked, which was represented as exceeding a quarter of a million sterling: but there was a good deal of unfairness in this, as all the heavy and costly works upon the main line are completed, and what remains to be done up to Llandissil is mere surface work. Besides, the company have been embarrassed from a variety of local circumstances, which we cannot notice here, but we know that very few lines have met with so many difficulties; and it is remarkable that the directors and their subordinates have had sufficient courage to struggle with them. These difficulties, many of them perversely thrust in the way of the company by interested persons, have increased the cost of the line; but the capital expended is not so large as to exclude the prospect of a dividend when the line, with its mineral branches, is finished. It is a thousand pities that the work has been delayed. Arrangements are, however, being made to lay down a tramway over the route marked out for the lime line to accommodate the traffic until it shall please Parliament to give the required powers for the construction of a railroad. We believe these lines will be proceeded with again next year, and under an independent company there is no fear that they will succeed. There are some other points in connection with this line, as affecting the development of minerals, which we intended to notice; but as our space will not admit of it in this week's Journal, we shall reserve them until we refer at some length, as we contemplate doing in a few weeks, to the Iron and Coal in the Gwendraeth and Cwmamman valleys.

THE NARROW GAUGE IN WALES.—The urgent necessity of laying down the narrow gauge system of rail throughout the whole of South Wales has been often urged in our columns, as affording the only means of developing the resources of the district, and affording the proper facilities for the speedy transit of the heavy minerals. We are glad to be able to state, on authority which cannot be doubted, that there is at length every probability of this great desideratum being at once carried into effect. Our readers are already aware that several amalgamation bills, which vitally affect the future prosperity of Wales, have passed one branch of the Legislature, and being now unopposed will, doubtless, be carried out in their entirety. These bills contain provisions in which the various ports of Wales are deeply interested, and from which most important advantages are naturally expected to ensue. When the amalgamation of the great companies was first broached the Vale of Neath appeared as opponents to the measure, and their opposition appears to have had considerable weight, and resulted in the insertion of an agreement in the bill, which we believe will do more to developе the trade of the district, and be more beneficial to the large colliery proprietors, than almost any other measure which has been carried into effect for years past. One of the chief features in the agreement is the recognition of the Vale of Neath line as a port of the amalgamated company's narrow gauge route to Liverpool, Manchester, and the whole of the North of England; and also putting the amalgamated companies under parliamentary obligation to run at least three trains per day over the whole of their lines. The Vale of Neath Company, on their part, have consented to lay down the narrow gauge over the whole of their system, and as a practical proof of their earnestness have already commenced operations at several points of the line, and the work will be pushed forward with all possible dispatch. The ports of Swansea, Neath, Briton Ferry, Llanelly, &c., will thus be brought into direct communication with the Messrs. Powell's, the Messrs. Nixon's, and all the other important collieries in the Aberdare Valley, from which hitherto they have been practically excluded, and this arrangement cannot but result in a large accession of trade, not only in the interior of the country, but at the several shipping ports mentioned.

## REPORT FROM NORTHUMBERLAND AND DURHAM.

MAY 14.—The exports of coal for the month of April are good, being much better than for a considerable period; the total exports having been 416,262 tons from the north-eastern ports, extending from Amble on the north, to Hull on the south. This sum exceeds the exports in April, 1862, by 50,751 tons. A great increase has taken place at Newcastle, the quantity having been 202,731 tons, against 163,334 tons in April last. At Blyth there is also a large increase, from 1804 tons to 12,134 tons. At Sunderland there is a slight decrease, the quantity having been 102,398 tons, against 104,951 tons; and at the other ports there is little alteration to notice. Among the imports into the Tyne last week were several cargoes of iron pyrites, timber, lead, manganese ore, &c. The following goods were exported from the Tyne:—29,301 tons of coal, 2193 tons of coke, 30,623 cwts. of iron, and 8552 cwts. of alkali. There was an increase in the shipments of coke of 147 tons; iron, 13,848 cwts.; alkali, 485 cwts.; and a decrease in the shipments of coal of 16,962 tons.

The general trade is far from being fully employed, many extensive collieries are but partially employed, being only worked three to four days per week. The steam coal collieries are doing better than for some time past, this being the season most favourable for exports. The exports for the last month show the activity of this branch of the trade, but other branches are, on the other hand, much flatter than they have been during the winter. The gas coal trade, which has scarcely felt the general depression, has now fallen quite slack, and many collieries have been working short time in consequence. The approach of summer has also its effect on the household coal works, which are many of them rather dull; altogether the summer promises to be a dull one for the coal trade.

The Iron Trade continues to progress most satisfactorily, although at present prices are low. At a meeting of the bar-iron trade at Middlesborough, held a few days ago, and attended by representatives from all the leading firms in the North of England, it was unanimously agreed to form an association to hold periodical meetings, such as are found to work so advantageously in other centres of this important interest. According to the *Daily Chronicle*, the following is the state of the blast furnaces of the Cleveland district on May 1, 1863:—

| Place and Owners. | In. | Out. | Total. |
|---|---|---|---|
| Eston—Bolckow and Vaughan | 9 | — | 9 |
| " Clay-lane Company | 3 | — | 3 |
| " Samuelson and Co. | 3 | — | 3 |
| Cargo Fleet—Jones, Dunning, and Co. | 2 | — | 2 |
| " Cochrane and Company | 4 | — | 4 |
| " Gilkes, Wilson, Pease, and Co. | 4 | 1 | 5 |
| Middlesbro'—Bolckow and Vaughan | 3 | — | 3 |
| " Hopkins and Co. | 1 | 1 | 2 |
| Port Clarence—Bell Brothers | 5 | 1 | 6 |
| Norton—Warner, Lucas, and Barret | 3 | — | 3 |
| Stockton—Holdsworth and Co. | 3 | — | 3 |
| Ferry Hill—J. Morrison | 3 | — | 3 |
| Thornaby—W. Whitwell and Co. | 3 | — | 3 |
| Darlington—South Durham Company | 2 | 1 | 3 |
| Whitton Park—Bolckow and Vaughan | 4 | — | 4 |
| Stanhope—Weardale Iron Company | — | 1 | 1 |
| Towlaw—Weardale Iron Company | 4 | 1 | 5 |
| Consett—Derwent Iron Company | 5=61 | 13=19 | 18=80 |
| All places, May 1, 1858 | 43 | 20 | 63 |
| " " 1859 | 56 | 11 | 67 |
| " " 1860 | 53 | 16 | 69 |
| " " 1861 | 56 | 20 | 76 |

The approaching meeting of the British Association in Newcastle is, of course, attracting much attention, and active preparations are making for the gathering, which will, no doubt, be a very large one. A special meeting of the local general committee was held in the hall of the Literary and Philosophical Society, on Saturday. One of the most important features of the meeting will be a series of papers, which are in course of preparation, on the chief branches of local industry, and at present include the following:—"Coal Mining, Coke, &c.;" N. Wood, J. W. Pease, and J. Taylor.—"Iron, and its Manufacture (Steel, Lead, Copper, Zinc, Aluminium);" J. L. Bell, T. Spencer, and T. Richardson, Ph.D.—"Iron Shipbuilding;" C. M. Palmer.—"Railways and Locomotives;" W. Hawthorn, J. F. Tom, and G. R. Stephenson.—"Engines and Hydraulics;" Sir W. G. Armstrong, C.B., J. F. Spencer, and P. Westmacott.—"Chemical Manufactures:" J. C. Stephenson, R. C. Clapham, and Dr. Richardson.—"Fire-clay Wares;" J. Cowen.—"Earthenware;" C. T. Maling.—"Glass;" R. W. Swinburne; and other papers are expected. Another feature of the meeting will be excursions to the various mines, ironworks, &c. One of them is arranged to visit the Cleveland district. On Tuesday, Sept. 1, an excursion has also been planned for Marsden Rocks, South Shields, and Sunderland. An excursion to Alston and Allenheads to visit the lead mines is also decided upon; and arrangements are in progress for visiting various other mines, works, &c. The committee are desirous of receiving contributions of works of art, pictures, models, and other matters of interest for exhibition from private gentlemen and others disposed to furnish them, and request those willing to aid them to communicate with the secretaries at Newcastle.

The Hetton Estate, in the County of Northumberland, is now "proved," and contains a very large quantity of clayband ironstone, of from 30 to 50 per cent. of iron, also a hematite, in beds from 2 to above 6 feet thickness, and within 2 feet of the surface. There are several seams of excellent furnace coal and Cannel coal of superior quality for gas making. The estate also abounds in fire-clay, potters' and common brick clay; limestone of above 90 per cent. (carbonate of lime) abounds. The coal and lime are let with covenants to supply the lessees of other minerals on advantageous terms. There is also bituminous shale on the estate, which comprises above 1500 acres, and which will shortly be offered for letting, together or separately, in whole or in part. There is plenty of water power for blast furnaces, and freestone and every requisite for building. The North-Eastern Railway is about four miles from Hetton. From what we hear there is every prospect for the successful formation of a company, and there is every probability of there being a railway made to this mineral field, as the property adjoining contains very fine stone and flag quarries, as also excellent coal. These circumstances alone would ensure a good traffic for a branch line from the North-Eastern or the intended Central Northumberland Railway, and it is fully expected that this at present isolated place will shortly become another Middlesborough.

## REPORT FROM DERBYSHIRE, YORKSHIRE, AND LANCASHIRE.

MAY 14.—There is a continued dulness in the Iron Trade in these counties, and there is great difficulty in obtaining orders, owing to the general slackness which pervades the greater departments of the trade. America still continues to buy largely of all kinds of munitions of war, particularly for the Federal States. There is a moderate enquiry for rails, both for home and exportation. For heavy iron castings there are some good orders in the hands of several of our larger firms in Yorkshire, and a Sheffield firm has succeeded in making an extraordinary large casting. There is a considerable briskness with the Leeds and Manchester engine-builders, the orders being more particularly for marine engines. The make of pig-iron is materially diminished, and a number of furnaces have been put out of blast. According to the orders for armour-plates issued by the Lords of the Admiralty, it would appear that the Government has no intention for some time to come to relax in their efforts to clothe our ships with iron. The demand for pig-iron is very limited, and prices are unsteady, with a tendency to lower. The Coal Trade is very inactive, and it would seem to be generally admitted that there is only a poor prospect for the summer months. The London market is reported to be overstocked, so that an improvement cannot well be expected from the metropolis at present. The demand in the provinces is a shade better, but there is nothing like a state of briskness prevailing. The colliers are not generally making more than three or four days per week, and the West Staveley Colliery, in Derbyshire, has ceased work for the present. We have an improving demand for coke, notwithstanding that the principal railways have ceased to use it for their locomotives. There is a large consumption at Sheffield, and the produce of the Dronfield manufacturers is almost wholly taken to Sheffield for consumption by carts, which will be obviated when the proposed direct railway is made. The new branch of the Midland from Rowsley to Buxton will be open for traffic on June 1, when a large tract of country will be opened for those speculatively inclined, and no doubt a large increase in the consumption of minerals will be the result. The line on the opposite side of the town of Buxton, which is being made by the London and North-Western Railway Company, will soon be completed, when the shortest railway route from Manchester to London will be opened. This is looked forward to with much interest by the Derbyshire coalmasters as likely to increase their trade, as they can successfully compete with the Lancashire coalowners. It will be important, too, when the cotton trade revives, because the increased consumption would soon be felt.

A very valuable coal property, with plant, &c., in Derbyshire, will probably soon be in the market. The plant is of the most substantial character, and the pits are in full operation, doing a good trade.

The Mill Dam Mining Company have just had another good sale of ore—50 tons, and 1¼ ton of blende, the produce of six weeks (previous sale, 56 tons, for eight weeks). The men are busy dressing for the next sale, which is fully expected to be much larger than last. The new engine is being erected with all speed; when it is completed, and another level reached, there is little doubt the returns will be considerably increased.

The matters connected with the winding-up of the affairs of the North Derbyshire Mining Company are progressing but slowly. A valuation has been made of the plant, and it is computed that with the present list of shareholders there might be about 10s. per share to divide. There is an enquiry for these shares even now, and there is little doubt but that another company will be formed. The mine has not been fairly tried, though such a large amount of capital has been expended.

The tonnage from the South Yorkshire coal field for London during the last month reached upwards of 26,000 tons from the principal collieries. Of this quantity the various Silkstones pits contributed 17,000 tons, Elsecar 2632 tons, Lund Hill 1213 tons, and Darfield Main 658 tons. The demand for the southern and some of the midland counties is equally depressed.

Messrs. John Brown and Co., of Sheffield, have been selected by the Admiralty to supply the armour-plates for Her Majesty's ship *Ocean;* and Messrs. Beale, of Parkgate, Rotherham, have been entrusted with the order for those intended to encase Her Majesty's ship *Zealous*. The plates in both instances are to be rolled.

An anvil block, weighing 100 tons, was cast at Sheffield last week. This is by far the lasting casting ever made in England.

The applications for Letters Patent include—Mr. J. S. Grimshaw, of Huncoat, for improvements in looms for weaving; Messrs. J. and T. Brierley, Denby Dale, for improvements in dyeing knickerbocker and textile fabrics manufactured of or from such yarns; Messrs. J. Lee and M. Gutteridge, Church Gate, for improvements in agricultural implements; Mr. B. Hargreaves, of Arden House, near Accrington, for improvements in tiles for drainage or sanitary purposes; Mr. C. and W. Shorrock, of Over Darwen, for improvements in power-looms for weaving; and Mr. F. Fenton, Appleton, Derby, has given notice to proceed for improvements in the manufacture of pulp for paper making and similar purposes.

A deserving mechanic in this district has invented a means of ventilating collieries, which is considered to be a great improvement upon those now in use, and is desirous of obtaining co-operation to enable him to protect and develope the invention. He claims that it will prevent any accidents from explosion, even in fiery mines, which is a very important consideration. His friend, Mr. Edward King, 17, Holdgate-road, York, may be communicated with on the subject.

## REPORT FROM NORTH AND SOUTH STAFFORDSHIRE.

MAY 14.—The Puddlers' Strike is not yet over, but at one of the works several of the men have gone in at the old rates. The men would act wisely if they would resume work, and when the trade improves seek for an advance by a conference with the masters. No doubt puddlers' wages have long been low; on the other hand, iron has only fetched very low prices, and to make both ends meet is a problem for manufacturers as well as for men. Orders are still scanty, and the trade is decidedly dull.

A number of informations, preferred by Mr. Baker, Inspector of Mines, were heard at the Wolverhampton Police Court, on Friday, before Mr. I. Spooner, the newly-appointed stipendiary magistrate. In the first case, William White, agent to Mr. B. Whitehouse, of the Ebenezer Colliery, West Bromwich, was summoned for not having sent the usual notice to the Secretary of State, and likewise to Mr. Baker, of an accident which occurred at that colliery on Dec. 2, as required by the Mines Inspection Act, within 24 hours of the occurrence of the same. The accident was an explosion of fire-damp, by which a man named Edward Lomas lost his life. The defendant pleaded ignorance of the rules. The magistrate said he should not be doing his duty if he did not inflict a heavy penalty; he should, therefore, fine the defendant 10*l.* and costs.—William Henry Dawes, of the Bromford Lane Colliery, was also summoned for a similar offence. A slight explosion took place at the above colliery, by which a workman named Millship was severely injured. A notice of the occurrence was sent to the Secretary of State, but it was dated the day before the accident took place, and was signed by a clerk named Manners, which made the notice illegal, as the Act requires that the notice shall be sent either by the agent or manager of the colliery. The defendant had been previously fined for defective machinery, and the magistrate now inflicted a penalty of 10*l.* and costs.—J. McDonald, an agent of the New British Iron Company, at Rowley Regis, was summoned for having neglected to provide proper means of communicating signals between the bottom of one of the above company's pits and the bank. The pit, however, was found to be out of the magistrate's district, and the summons was, therefore, dismissed for want of jurisdiction.—Joseph Cartwright was charged, as being chief banksman at one of the Messrs. Colbourne's pits, at Tipton, and in that capacity neglecting to put up proper fence-guards, by which, on the night of Feb. 16 last, an old man, unacquainted with the locality, accidentally walked down the shaft, and was killed. It was attempted to be set up for the defendant that, as he had been casually employed for a few months as a night watchman, he could not be regarded as chief banksman, but the magistrate decided that he was liable, and inflicted a penalty of 2*l.* and costs.

A very sad illustration of the reckless conduct of which colliers are often guilty was afforded at the Bull Holes Colliery, near Bilston, on Monday morning. Thomas Clarke, 17 years old, whilst descending with others, was engaged in practical jokes with his companions, when he loosed his hold, fell to the bottom, and was killed.

THE SLATE TRADE.—A very favourable report upon the progress of the Hafod-y-Wern Slate Quarry, showing that the sanguine expectations expressed in the prospectus are being rapidly realised, has just been made to the directors of the company formed for working it by Mr. T. Macdougal Smith, their consulting engineer. He reports that he visited the quarry on April 22, and found great progress made with the works, and much improvement in the appearance of the openings and quality of the slate rock. Both the quality of rock and regularity of the foot joints have much improved in the north-west corner of the first and second floors, where the work has been most extended into the hill on the dark blue vein, and the No. 2 level has been driven 241 ft. to the purple vein, where the rock proves good. The opening from this to the second gallery is complete, affording great facility for clearance. There are similar improvements in the third gallery. No. 3 level is driven 127 ft., and he expects is now entirely through the hard rock into slate. Near the entrance to No. 4 levels an open cutting is being made across the veins to open a fourth gallery, to bring the third floor more rapidly into operation. Upon the fifth gallery great progress has been made with the clearance, the shaft sunk through the purple vein to the end of No. 4 level has now been opened out for 12 yards in length, and about 3 yards in width. The value of the slates made was—January, 123*l.* 19s.; February, 136*l.* 2s. 6d.; and March, 154*l.* 5s. 7d., showing an average monthly increase of 94*l.* 2s. as compared with the corresponding quarter of last year. Mr. Smith has not analysed the cost of production, as in early works it is coupled with a great deal of development, but will give the details on his next visit. Upon Moel Trefan a trial has been made to the south-west of the mountain boundary, giving excellent assurance of slate rock. On the direct line of the slate veins in Hafod-y-Wern little has yet been done, but sufficient to show that there is a first-rate body of slate; it is intended immediately to open largely on the vein. The bill for the branch from the Carnarvonshire line to the Garreg Fawr Quarry, at Bettws Garmon, has been withdrawn this session, owing to Mr. Brewer's opposition. In conclusion, he states that nothing can be more satisfactory than the appearance of the quarry, which progresses most satisfactorily.

From Portmadoc, we learn that the demand for slates at this port was never more brisk than it is at present, and stocks were scarcely ever at so low an ebb. Ships have to wait for weeks, and even for months, without being enabled to obtain a cargo, owing to the long arrears of orders on the books. Parties with cash in their hands have often to bear disappointments, and captains of vessels are almost driven to despondency by the long delays, which, in fact, are unavoidable. How long this state of things will continue depends upon two things—first, upon future orders; and, secondly, upon the development of the new slate quarries which are being opened in the district. As it is, slates are at a premium, and vessels are at a discount.

THE COLLIERIES IN NORTH SOMERSET.—The Rev. Prebendary Milward, of Paulton, in a letter respecting the North Somerset Railway bill, which has just passed the House of Commons, thus alludes to the present state of the collieries in that district:—"While boards of directors have been fighting over us, and engineers and lawyers have contended for the spoil, the district has been steadily losing ground, from the impossibility of competing with other parts of the country possessing railway accommodation. It is, perhaps, the only mining district in England which has decreased in population, as it is undoubtedly the only one that has no railway running through it. In my own parish there is now one coal pit where there were four; the wages of our men have (from want of regular employment) been so reduced that a vast amount of poverty exists. At the present moment thousands of tons of excellent coal are lying at the pits, waiting for a market, and all other business is, consequently, affected to a great extent. Our coal is of the very best quality for household use; our other minerals are abundant and valuable. * * * The connecting such a neighbourhood with Bristol must be of mutual advantage to us both. Our line running into the Great Western at Radstock will provide a shorter and more direct route with Wiltshire and Dorsetshire than by the present circuitous one by Bath, while our tramway to the floating harbour in Bristol will bring our coal within reach of the shipping, and give access to the corn, timber, and iron trades, for transfer of their heavy goods to the stations in Temple Meads, and over our line into Somersetshire." We may add that the only opponents of the bill are the Great Western Company, but sanguine hopes are entertained of its successful passage through the House of Lords.

IRON IN DUMFRIES.—We have already alluded to the discovery of an extensive and valuable deposit of granite on the estate of Mr. Witham, of Kirkconnell, on the River Nith. The stone was found to be of excellent quality, and in great abundance, whilst its proximity to the river affords every facility for shipping. Since this, search has been made which has resulted in the discovery of several specimens of unmistakeable iron ore, in one case fully ¼ in. thick. It is considered by those conversant in such matters that the traces of iron which have been found are merely indications of a large vein or mass of iron ore lying, in all probability, at the junction of the granite and Silurian rocks, from which they have been pressed outwards. The distance of this point from the quarry face is about 300 yards, and it is believed that to penetrate to that distance by working a drift inwards from the bottom of the quarry would be the easiest and cheapest mode of ascertaining the existence of a vein, if it does exist, as well as the most likely to prove successful, inasmuch as it would pass through greater varieties and inclinations of strata than a shaft sunk from surface.

BORING MACHINERY.—The improvements which form the subject of the invention for which provisional protection has been granted to Mr. James Gilchrist, of Glasgow, have been designed with a view to obtain a more simple, convenient, and efficient arrangement of the parts than has hitherto been adopted. In one modification of the improved engine the principal parts are fitted upon a framing, which is by preference mounted upon wheels. The parts comprise a steam-boiler, winding details with actuating cylinder or cylinders, and a cylinder for imparting the required reciprocating motion to the boring-rods; this last-mentioned cylinder, which may be fixed or oscillating, is disposed horizontally, and its piston-rod actuates the vertical arm of a bell-crank lever centred on a fulcrum, or on journals at a higher level than that of the cylinder, and having its other arm projecting

horizontally outwards over the bore, and being connected to the boring-rods. The steam may have access to both sides of the piston, its action on both sides, or on one side only, being regulated by a suitable valve, actuated by hand or by the movement of the piston-rod itself; or the steam may be allowed access to only one side of the piston. The arms of the bell-crank lever need not in all cases be at right angles to each other, but may in some cases be arranged to suit a diagonal or inclined position of the actuating steam-cylinder. When the boring-rods have to be drawn out of the bore, the bell-crank lever may be disconnected and turned out of the way.

## IMPROVEMENTS IN ELECTRO-METALLURGY.

The many purposes to which electro-metallurgy is now applied renders every proposition for improvements in connection with it of peculiar interest. Mr. A. Dalrymple, of Sheffield, has provisionally specified an invention by which he is enabled to produce ornamental patterns, or other devices, upon metal surfaces by depositing one or more different metals in such a manner that these different metals are either inlaid in the metal surfaces or in relief upon the same. He, in the first place, covers that portion of the article which is not to be deposited upon with a non-conducting composition, and effects the deposition by the following process:—He cuts out the pattern of the ornament in parchment, or other suitable material, and gums it upon the surface to be acted upon; he then covers all the other portions with a suitable non-conducting varnish, or composition, and afterwards removes the parchment pattern, thus leaving the parts to be ornamented quite free of the varnish or composition; or in some cases, instead of employing either of the above-described processes for producing the exposed pattern of the ornament on the metal surface, he covers the same entirely with a non-conducting varnish or composition, and then cuts the pattern of the ornament through the same, whereby the parts of the metal surface upon which it is desired to deposit are uncovered or exposed. The metal article prepared by either of these processes is then placed in a decomposing cell having a battery action, whereby the portions of the surface not covered with the varnish or composition, and which have the configuration of the ornament or character to be formed are eaten out, forming a "bed" of any required depth. The article is then removed from the cell, and is placed in an ordinary depositing bath with battery action containing the proper solution of the metal to be deposited, as is well understood, which metal is then deposited into the exposed parts of the metal article which have before been eaten out, filling the same in up to, or above, the level of the surface of the metal article to any extent that may be required. The metal article is then taken out of the bath, and the varnish, or composition, is removed, when an inlaid pattern, ornament, or characters, or marks of any description, will have been formed on the surface of the metal article of the required different metal. If the article to be ornamented be of zinc, and the same be placed after the bed for the pattern has been formed, as above described, in a strong solution of sulphate of copper, then the copper will be deposited upon the bed without the aid of a galvanic battery.

If the article to be ornamented has already been electro-plated with gold, silver, or other metal, he sometimes causes those portions of the surface of the same which are to receive the ornament or pattern in a different metal to be eaten out only to the extent of the thickness of the electro-plating, and deposits upon those portions the different metal, as before described. Or in some cases, especially for cutlery, he causes the exposed portions to be eaten out deeply, and then partially fills them in with zinc or spelter, after which he deposits upon them gold or silver until the surface is level with the general surface of the article. For producing ornaments, characters, or marks of any description upon a metal surface in two or more different kinds of metal, he first causes one such metal to be deposited upon the parts required to be ornamented with that particular metal by any of the above-described processes, and he then covers the whole surface again with composition or varnish, and chases in the same such other parts of the pattern as require to be formed in a different metal. These chased lines are then eaten out, and the other metal is deposited upon them, the process being repeated as often as there are different metals to deposit.

When it is required to produce ornaments in relief upon the metal surface, he sometimes forms the exposed pattern by any of the above methods, and deposits the metal upon the exposed surface without first eating out the surface to form a "bed." In some cases he produces the pattern of the ornament or character upon the metal surface thus:—He cuts out the pattern in thin sheet metal, or other suitable material, in a similar manner to forming stencil-plates; he then places this upon the metal surface to be ornamented, and brushes or deposit wax on the metal surface through the parts cut out in a similar manner to stencilling. The stencil-plate is then removed; the portion of the metal surface not covered with wax is covered with a non-conducting varnish, and when this is dry the wax is melted off the parts to be ornamented, after which the metal is deposited on those parts. In forming moulds or dies in iron by galvanic deposition he makes the pattern of the mould or die in any suitable material, and covers one-half of it with wax or other suitable non-conducting substance, and the other half with black lead or any other suitable conducting substance; he then places the pattern in a depositing bath containing a solution of sulphate of iron, whence iron is deposited upon the conducting portion of the pattern until the deposited metal it of the requisite thickness; he then removes the half mould so formed, and coats that half of the pattern with a non-conducting substance, whilst he coats the other half with a conducting substance. The pattern is then replaced in the depositing bath, and the second half of the iron die or mould is deposited in the same manner as the first half. If the moulds or dies so formed are to be employed for stamping they may be case-hardened, and afterwards brazed on to a solid piece of metal.

## THE PUDDLING OF IRON BY MACHINERY.

The present attitude of the South Staffordshire puddlers, who threaten a stoppage, temporary at least, of the iron trade of their district, renders it more desirable than ever that puddling machinery be perfected and generally adopted.

What is puddling? It appears to consist in stirring a quantity of melted iron, and in bringing each portion of the whole mass successively up to the surface. What is the object of puddling? Simply, by bringing each particle of the melted iron to the air, to allow the oxygen of the air to seize upon and combine with the carbon and silicon associated with the iron. Practically, it is only the presence of carbon and silicon which renders iron fusible in the cupola, making it, as we say, "cast-iron." When desilicatised and decarbonised (for the silica is always carried off first in puddling), the particles of the iron cohere so much more strongly than before that a much higher degree of heat is required to separate them—so high a heat, indeed, that the iron will burn before it will melt. Iron thus cleansed, we need hardly say, is "wrought-iron." The primary object of puddling is accomplished by any means which will bring the particles of the melted iron successively up to the air, or, on the other hand, carry the air through the iron. Although not technically a process of puddling, the Bessemer treatment of iron gives much the same, if not the same, results. The difference, so far as there is any, in this respect, would appear to be that the Bessemer process cannot be interrupted, with a certainty of success, until the iron is thoroughly decarbonised or nearly so, whereas puddling is never carried quite to this extent. At the very high temperature at which the iron is kept in fusion towards the end of the conversion by the Bessemer process, there is more or less burning, and the subsequent addition of "spiegeleisen" produces distinctive, although generally excellent results upon the product. Still there is a difference between Bessemer metal and puddled iron, and of such a kind that, thus far, the former is inapplicable to many of the purposes of the latter. Whatever may yet be accomplished in the mode of converting iron, we must retain the puddling process for a time longer. But it cannot be impossible, we should suppose, to contrive a machine capable of performing what the puddler now does laboriously by hand. It is true that his work is not altogether mechanical. He certainly has to use his eyes and to act with considerable judgment. But there are thousands of men who might readily be trained to the necessary degree of observation and judgment, although unfitted for the perspiring task of raking and balling.

What is wanted is a pudding machine capable of doing the work, while the attendant, with a fair aptitude and some preparation for the business, supplies the observation and directing skill. Capt. Warren, Mr. Tooth, and others, have invented puddling machines, but they do not appear to have answered. Capt. Warren proposed a revolving cylinder, lined with fire-bricks, and turning upon a horizontal axis oblique to its own. Melted iron, placed within this apparatus, would thus be churned from one end to the other with an energy corresponding to the speed of revolution and the obliquity of the axis of the cylinder. Mr. Tooth employed a cylinder so lined with fire-brick as to present alternate ridges and depressions along its internal length. This cylinder was put in revolution upon its own axis, which was horizontal, and the iron was thus successively carried up on one side and allowed to fall again. Fair results were claimed for this contrivance two years ago, and it was especially urged that, instead of the usual consumption of 25 cwts. or more of coal per ton of pigs puddled, a very much less quantity was found to suffice. On the other hand it was represented that many of the blooms puddled by this process were but little better than cast iron, and whether this be true, or whether from questions as to the validity of the patent, it was not thought expedient to push the matter further, the fact remains that little or nothing has been heard of the "mechanical puddler" for the past two years. Its action certainly did not resemble that of the puddler's hook, and this, we think, must be the starting point in designing any machine for the purpose.

By the correspondence of the *Mining Journal* it appears that Messrs. Dumény and Lémut, ironmasters at Clos Mortier, near St. Dizier, have invented and set to work a puddling apparatus, which consists of an adaptation of mechanism to a series of ordinary puddling hooks. The description given is in very general terms, and leaves us unable to form anything like a judgment as to its real success. There must be many ways, one would think, of imitating mechanically the action of the puddling hook. Something like Schroder's evaporating pans, as employed on sugar plantations, would, if the discs were wrinkled or provided with projections of some kind, at least bring the iron well up to the air. Whether any material of sufficient strength could be found to stand the heat would require to be settled by experiment. The central shaft would require to be coated with fire-clay, ganister, or calcined silicate of magnesia, and might even require to be made hollow with a circulation of water through it. There is also a contrivance employed for whipping eggs and creams, in which apparatus a pair of radial arms revolving horizontally in opposite directions are provided with stirring pins, set much like the teeth of a rake. It would be interesting to know how far an apparatus of this sort, with its axis of revolution inclined in a greater or less degree from the surface of the melted metal, might be made to produce the effect of puddling.

Not only are the ironmasters now at the mercy, so to speak, of the puddlers, but at the best the work of puddling is of a kind at which no human being ought ever to be employed. Besides its laborious nature, too, it is most unsatisfactory to be compelled to work upon such small masses of metal as are dealt with in the puddling furnace. Puddling furnaces cannot now be made larger than the size permitted by the range of the puddler's hook, and this must be light, and, therefore, short, in order that even a strong man may work it for half an hour or so in the high heat to which the puddler is always exposed. As it is, a 3-cwt. charge is about as much as he can manage at a time. The time will come, will it not, when the least charge will be as many tons?—*Engineer.*

GUNPOWDER.—At the Franklin Institute Mr. H. Liebert's substitute for gunpowder was exhibited. Its principal ingredients are prussiate of potash and cyanice or ferro-cyanide of potassium. A powder composed of these two substances, in combination with nitrate of soda, charcoal, sulphur, and other ingredients, any or all of which may be employed, can be compounded without that danger of explosion which is incurred in making the ordinary substitutes for gunpowder, in which chlorate of potash is generally used.

ARTIFICIAL SLATE.—Mr. J. N. Pierce, of Darby, exhibited at the Franklin Institute numerous specimens of artificial slate, for the use of schools, colleges, &c. On painting any suitable surface with a preparation patented by Mr. Pierce a slate-coloured ground will be formed, which answers equally as well as slate for drafting or marking purposes. Paper, linen, or any textile fabric may be used to form convenient portable slates, which can be rolled or folded up for transportation. Mr. Pierce also exhibited pencils made of talc.

## TERRICCIO COPPER MINING COMPANY OF TUSCANY.

A highly influential company—the Terriccio Copper Mining Company of Tuscany—has just been formed for working a promising copper mine, on Prince Charles Poniatowski's estate of the same name. The Monte Catini Mine, in the same neighbourhood, has long been regarded as one of the richest copper mines in existence, and with regard to the Terriccio Mine, Mr. R. W. Rickard, one of the Messrs. Taylor's agents, remarks, in concluding a very favourable report, that "taking into consideration the striking analogy that exists in the character of the lodes in this mine to that of the rich lodes in the Monte Catini Mine, as well as the promising appearance of the lode itself, the richness of the product, and the good position as to communication, he thinks the mine an excellent speculation, and would warmly recommend its being tried in a spirited manner. The surface is well adapted for a cheap and effectual plant, and the rivulet that runs through the concession would supply ample water for dressing purposes." We have during the past week examined a large number of specimens from the mines, which are undoubtedly of high produce, as indeed has been already proved by the assays of Messrs. Johnson and Sons, and Mr. F. Claudet. The yellow sulphide ore is really excellent, and yields, according to Messrs. Johnson's assay, within a fraction of 25½ per cent. of pure copper, whilst the grey ore exceeds 58 per cent. Other samples, of ore which will probably be met with in less abundance, have been assayed by Mr. Claudet; that which contains the native copper yielded 41 per cent., whilst the black sulphuret proved to be worth 70 per cent. of pure copper, so that the average produce of the ore that will be brought into the market may be fairly estimated at about 40 per cent.—a produce which would leave a handsome profit to those engaged in working it. The Terriccio estate is situated about 20 miles south-east of Leghorn, and the Maremmana Railway, which will shortly be completed, will pass in close proximity to the concession. The company formed for working the Terriccio Mine have obtained the transfer upon very favourable terms, both the proprietor and the lessee depending entirely upon the success of the undertaking for their remuneration; the proprietor accepts one-fifth of the shares in lieu of royalty, and the lessee also accepts shares in payment for the outlay of 3250*l.*, which has been incurred in practically testing the value of the property. The direction is composed of gentlemen well known both in England and Italy—Sir J. H. Pelly, the Governor of the Company of Copper Miners in England; Col. French, the Chairman of the Bombay and Baroda Railway Company; Baron French, of the Florence banking firm of French and Co.; and Mr. Charles Morris, the Chairman of the United Mexican Mining Company, being among the number; the remaining members of the board undoubtedly possessing equal ability and experience. Mr. Schneider, the mining engineer of the neighbouring Monte Catini Mine, which yields 3000 tons of 30 per cent. ore annually, considers the lodes in the Terriccio to be the same, and observes that the cheapness of labour and advantages of communication are such that few mining undertakings offer a fairer assurance of success. The labour of good miners is obtainable at 1s. to 1s. 6d. per day. The lease has 38 years to run, and full powers have been secured for working any other mines which may exist on the estate.

## MINERAL PRODUCTS IN THE ARTS.

At a time like the present, when new sources of supply are continually being opened up for almost every description of mineral substance with which the miner is acquainted, it must be particularly gratifying to our readers to observe the vast number of additional purposes to which mine products are applied in connection with the industrial arts, inasmuch as it is calculated to dispel the groundless fears that might otherwise be entertained of the supply so far exceeding the demand as to exercise a materially depressing influence upon prices. We have seen within the last few years the extensive employment of the tungstate of soda, and the consequent profitable application of the previously worthless wolfram ore, and very many other examples equally interesting could be referred to; but we know no instance in which the progress made has been more rapid, and the results more beautiful, than in the production of the brilliant coal tar colours, with which we are now becoming so familiar.

At the Royal Institution of Manchester, Dr. Crace-Calvert has recently delivered an instructive series of lectures on "Coal Tar Colours, and on Recent Improvements and Progress in Dyeing and Calico Printing," which are now published in a neat little pamphlet,* illustrated with numerous specimens of aniline and other colours, as applied to the textile fabrics themselves. The subject is treated under two distinct heads; first, the new dyeing materials obtained from well-known dye stuffs, and then the dye stuffs altogether new, together with their application to dyeing. It is, of course, the latter class that will prove most interesting to the readers of the Journal, since the whole of the coal tar colours are included under it. It was only in 1825 that Faraday obtained, for the first time, benzine from coal gas; and in the following year Unverdorben discovered a substance which was ultimately named aniline by Fritsche, and subsequently found by Prof. Hofmann as a product of coal tar; and, finally, by the researches of eminent chemists, the *benzine* of Faraday has become the *aniline* of Hofmann. It is, doubtless, to Hofmann that we owe the possession of those splendid colours derived from coal tar, and, further, it was one of his pupils, Mr. W. A. Perkin, who produced, for the first time upon a commercial scale, aniline, and then the beautiful purple colour which it is susceptible of yielding. Mr. Perkin's process was patented in 1856. Dr. Crace-Calvert traces, chronologically, the improvements which have from time to time been introduced, the result of which has been that not only has aniline been made to yield by various methods the brilliant purple originally obtained from it, but the dazzling magenta, the azuline, various rich browns, the delicate bleu de Lyon, the phosphine (a very fine orange yellow), the roseine (a beautiful crimson maroon), purpurine, alizarine (a good lilac), emeraldine, aniline black, and some others. The lectures contain a vast amount of information, and are well worthy the perusal of all, not only from the general interest which attaches to the subject, but also as showing the marvellous results which may be obtained by careful research and perseverance, and as offering some inducement to attempt to apply industrial products to purposes for which they have not previously been employed.

* London: Trübner and Co. Manchester: Palmer and Howe.

FURNACE FOR CASTING STEEL.—An improved furnace (which is more especially intended for casting steel in large masses) has been provisionally specified by Mr. J. B. Delrieu, of Paris; it is composed of a crucible or basin of reception, with a moveable cover or lid, and having at its lower part an opening called the tapping hole. There is a fireplace beneath the crucible, with doors, grating, and ashpit. On issuing from the fireplace the flames embrace all parts of the crucible, and join the chimney above. A little above the crucible is an opening for inspecting the working, and at the bottom of the fireplace conduits or blast pipes for increasing the draught. The ashpit, the fireplace, and crucible are surrounded by refractory brickwork, which are in their turn enveloped in ordinary brickwork, which forms the exterior of the furnace.

IMPROVEMENTS IN PUMPS.—The pump forming the subject of an invention provisionally specified for Mr. V. Delvart, of Denain, is said to offer the peculiarity that whilst being simply a suction and lift-pump, it gives a jet of water five times stronger than any other pump with equal force. Thus, when the piston is raised, the column of water contained between it and the pump-barrel is drawn up and flows out by a spout. The packing of the piston in sucking raises the column of water, and when the piston descends it forces the liquid which it has sucked to rise within the space separating its circumference from that of the pump-case, and consequently to flow out continuously by the spout. This pump, which may be single or double, is essentially composed of a cylindrical hollow and water-tight piston, the air which it contains communicating with the atmospheric air by small tubes, it has at its lower extremity an iron box or cup, and its packing is of gutta-percha. In some cases it is desirable to obtain a vacuum in the piston of a metal pump, barrel valves, and their seat, an opening for inspecting the cup and valves, of feet raising the pump-barrel of a balance beam, and its pedestal and spout, or shoot. In some cases the secret valve is formed of a simple gutta-percha washer, and the seat of the valves, instead of being entirely hollowed out, will have its surface pierced with a number of holes for passage of the water. Several pumps may be united and be driven continuously by an apparatus consisting of two cranks, which transmit motion to a couple of levers, which, by two connecting rods and toothed wheels and pinions, communicate it to an hydraulic wheel. Two other connecting rods are set in motion by those first mentioned, and communicate it to levers attached to the piston-rods, which raise the water into a reservoir, whence, on opening a sump-cock, it flows continuously through a spout on to the hydraulic wheel. To arrest its action it suffices to close the sump, when the apparatus will only continue by the power which it has already acquired, and which will bring the water in the reservoir to a certain level before stopping.

NEW RAILWAY CARRIAGES IN FRANCE.—A trial is being made on the Eastern Railway of some new carriages which will, it is expected, remedy many inconveniences long complained of. A passage in the centre communicating with one compartment to another enables the railway officials to see what is going on during the march of the train, and allows the passengers to freely move about from one end of the carriage to the other. A platform or balcony for smokers is placed at one end. Ventilators are also fixed, which can be opened or shut at pleasure so as to give a supply of fresh air. The new plan appears to present the following advantages—security, facilities for smoking without annoyance to anyone, and exemption from danger of fire, as the carriage is constructed of sheet-iron.

IRON-MAKING IN AMERICA.—The following is the amount of iron made by No. 1 Furnace of the Thomas Iron Company at Hokendauqua county, Pa., during last blast, a period of 186 consecutive weeks:—

| No. 1—Tons. Cwts. | No. 2—Tons. Cwts. | No. 3—Tons. Cwts. | Total. Tons. Cwts. |
|---|---|---|---|
| 16,189 03 ..... | 27,286 10 ..... | 2,724 00 ..... | 46,199 13 |

All the above iron, except No. 3, were used for foundry purposes: 46,199 tons in a blast of 186 consecutive weeks is equal to an average production of 248 tons for each week, or 35⅓ tons per day for 186 weeks of seven days.—*U.S. Railroad and Mining Register.*

STERRO-METAL.—Bronze is a term applied to compounds of tin and copper; while compounds of zinc and copper are called brass. These metals in varying proportions form the most common alloys; still there are many others, and the numbers of such is always on the increase. As various metals may be mixed in different proportions, and as a slight variation in the quantity of any one component produces a new alloy of a different character, the number and quality of alloys may be extended indefinitely. The new alloy, called "sterro-metal," is composed of pure American copper, 57·63 parts by weight; spelter (block zinc), 40·22 parts; iron, 1·36; tin, 0·15. It has a brass-yellow colour, a close grain, and susceptible of a fine polish. This alloy is stated to possess great strength, a square inch of it, after being forged while red-hot, sustained a strain of 28 tons before it broke. It can be drawn cold and forged like iron. The tensile strength of common gun-metal is only 17 tons per square inch, which is but little more than half the strength of sterro-metal.—*Scientific American.*

IMPROVEMENTS IN RAILWAYS.—A new economic permanent way, designed by Mr. G. F. Griffin, is attracting attention. The sleepers are made of corrugated cast-iron, and the cost per mile is stated at 1245*l.* against 1806*l.*, or 1844*l.* under the existing systems. Apart from saving in annual maintenance, Messrs. Brassey, Betts, Trevethick, and others have given very favourable opinions of its qualities, and an experimental portion laid down about 15 months ago on the Great Northern line is stated to have shown most satisfactory results.—*Mechanics' Magazine.*

HOLLOWAY'S OINTMENT AND PILLS—RHEUMATISM, NEURALGIA.—It somewhat difficult to determine which of these diseases is afflicting the sufferer, but the ignorance will not matter if Holloway's remedies be used. They alleviate and cure all muscular and nervous pains. In hereditary rheumatism, after bathing the affected part with warm water, Holloway's Ointment should be well rubbed upon the spot, that it may penetrate and exert its soothing and regulating properties on the deeper vessels and nerves, which are unduly excited, and causing both the pain and swelling. Holloway's treatment has the merit of removing the disease without debilitating the constitution, which was the inevitable result of the bleeding, mercury, and colchicum practice formerly adopted in these complaints.

**India Office.**

BY ORDER OF THE SECRETARY OF STATE FOR INDIA IN COUNCIL, notice is hereby given that the DIRECTOR-GENERAL OF STORES FOR INDIA will be READY, on or before MONDAY, the 25th instant, to RECEIVE PROPOSALS in writing, sealed up, from such persons as may be willing to SUPPLY— CAKE COPPER.
And that the conditions of the said contract may be had on application at the Indian Store Office, Cannon-row, Westminster, where the proposals are to be left any time before Two o'clock P.M. of the said 25th day of May, 1863, after which hour no tender will be received. GERALD C. TALBOT, Director-General.
India Office, May 12, 1863. 63

**India Office.**

BY ORDER OF THE SECRETARY OF STATE FOR INDIA IN COUNCIL, notice is hereby given that the DIRECTOR-GENERAL OF STORES FOR INDIA will be READY, on or before MONDAY, the 18th instant, to RECEIVE PROPOSALS in writing, sealed up, from such persons as may be willing to SUPPLY— BLOCK TIN.
And that the conditions of the said contract may be had on application at the India Store Office, Cannon-row, Westminster, where the proposals are to be left any time before Two o'clock P.M. of the said 18th day of May, 1863, after which hour no tender will be received. GERALD C. TALBOT, Director-General.
India Office, May 11, 1863. 64

QUEBRADA LAND, RAILWAY, AND MINING COMPANY (LIMITED).—GENERAL SPECIFICATIONS and CONDITIONS for the CONSTRUCTION of this COMPANY'S RAILWAY can be obtained from Messrs. Dunsford and Ranken, 9, Broad-street Buildings, London; or from Mr. R. Grantham, 7, Scotland-yard, London, by either of whom tenders will be received up to the 30th inst.
By order of the Board,
May 11, 1863. DUNSFORD AND RANKEN, Managers. 65

HINDOSTAN (SINGHBHOOM) COPPER COMPANY (LIMITED).—WANTED, a MAN THOROUGHLY EXPERIENCED in MINING and EXTRACTING GOLD from QUARTZ, to PROCEED immediately to the COMPANY'S MINES in INDIA.—Applications to be made to the offices of the company, 9, Broad-street Buildings, London, E.C. 66

MR. WM. REAY, JUN., hereby informs his friends and the public that he is at present FREE FROM ENGAGEMENTS, and will PLACE HIS SERVICES at the DISPOSITION of ANY PARTY who WISHES his OPINION upon the WELSH GOLD DISTRICT, or to INSPECT and REPORT on any MINING DISTRICT or MINE at HOME or ABROAD.—For terms, apply by letter, addressed Spread Eagle Hotel, Gracechurch-street, London, E.C. 67

GOLD QUARTZ MINING IN NORTH WALES.—RELIABLE INFORMATION and ADVICE GIVEN on any of the MINES in the neighbourhood of DOLGELLY which are at present drawing public attention, owing to the late profitable results of the Clogau Mine, in 1861 and 1862, on receipt of a fee of £1 1s. Parties would do well in consulting the advertiser before buying or selling in the above mines.—Address, J. R. GRAHAM, Glanronwy, Pont Ddu, near Dolgelly, North Wales. 68

BIRMINGHAM WAGON COMPANY (LIMITED)—SECRETARY WANTED.—Applications to be addressed to the directors, at the offices of the company, No. 3, Newhall-street, Birmingham. 69

TO CAPITALISTS.
CLEVELAND BLAST FURNACES.—The ADVERTISER DESIRES the CO-OPERATION of a FEW GENTLEMEN to JOIN in the ERECTION of FURNACES on a most ELIGIBLE FREEHOLD ESTATE, commanding 16 ft. of the valuable CLEVELAND BANDS of IRONSTONE. Arrangements have been made for the purchase, by which the stone stands at the minimum of 3d. per ton only, and with practical gentlemen and one-half the requisite capital.
The furnaces being on the top of the stone itself, abundant water and slag deposit ground on the estate, coke, coal, and limestone at the minimum rate of the district, the Yorkshire and Cleveland Railway, and a station in front of the pig beds, &c., present a combination for economic production not to be excelled.—Address, "H. C.," MINING JOURNAL office, 26, Fleet-street, London, E.C. 70

METAL TUBES AND CYLINDERS.—The ADVERTISER has COMPLETED an IMPROVEMENT in MACHINERY for MANUFACTURE of SAME, which is protected at home and abroad. He is now DESIROUS of JOINING with a CAPITALIST to FURTHER the UNDERTAKING, which promises to be a valuable one. A machine is ready for view.—Apply to JNO. KENDRICK, 20, Easy-row, Birmingham. 71

TO SPECULATORS.—The ADVERTISER, a retired mine captain of great practical experience in Cornwall, is in a POSITION to GIVE the NAMES of SIX PROGRESSIVE MINES which are SAFE in his opinion (founded on a perfect knowledge and reliable data) to ADVANCE HUNDREDS PER CENT. in a FEW MONTHS. Terms, commission on profit.—Address, "Investor," MINING JOURNAL office, 26, Fleet-street, London, E.C. 72

TO COPPER MINERS AND OTHERS.—A GENTLEMAN possessing considerable COMMERCIAL EXPERIENCE, and both a SCIENTIFIC and PRACTICAL KNOWLEDGE of the TREATMENT of COPPER ORES, by a process enabling him to obtain copper of extreme purity, is OPEN to an ENGAGEMENT. He is also acquainted with some of the continental languages.—Address, "G. P.," 32, Bouverie-street, E.C. 73

WANTED, a SITUATION as MINE AGENT, by a Cornish miner, who has had considerable experience in the management of mines out Cornwall. Reference as to character and ability to last employer, where he has been 15 years.—Address, "K. A.," MINING JOURNAL office, 26, Fleet-street, London, E.C. 74

WANTED, a RESIDENT MANAGER for a COLLIERY in NORTH WALES, which is at present producing upwards of 50,000 tons of coal a year. He must be able to take the whole charge of the colliery, and conduct all the commercial affairs of the company.—Application, with full particulars, to be made on or before the 19th inst., to "L. J.," MINING JOURNAL office, 26, Fleet-street, E.C. 75

SLATE QUARRIES.—WANTED, a SECRETARY for a FIRST-CLASS SLATE QUARRY COMPANY in WALES, to be formed under the Limited Liability Act. The position of the quarry, the quality of the slate, and the extent and terms of the lease, are most favourable, and worthy of a large capital. It is intended to have agencies in the provinces, as well as in London, and the secretary will be expected to aid with influential directors, and to provide preliminary expenses.—Apply by letter, post-paid, with references, to "H. Y.," secretary, MINING JOURNAL office, 26, Fleet-street, London, E.C. 76

REQUIRED, the CO-OPERATION of a GENTLEMAN to FORM a COMPANY for WORKING some very RICH and EXTENSIVE SILVER-LEAD MINES in SWEDEN.—Address, "K. C.," MINING JOURNAL office, 26, Fleet-street, London, E.C. 77

A GENTLEMAN in the MINING ENGINEERING PROFESSION is at present OPEN to RECEIVE ONE or TWO ARTICLED PUPILS, where they would have every opportunity of gaining experience in the viewing, surveying, and valuing coal and lead mines in Wales.—Apply to Messrs. L. and J. ALLINGTON HUGHES, solicitors, Wrexham. 78

EAST WHEAL MARTHA MINE.—WANTED, a 40 in. cylinder STEAM ENGINE, with all the necessary appliances.—Apply, with particulars and price, to Mr. GEO. SEARBY, managing director, 2, Crown-court, Threadneedle-street, London, E.C. 79

FOR SALE, THREE BOILERS, 41 ft. by 6 ft.; 19½ in. FORCING PUMP, 14 in. LIFTING PUMP, HAND PUMPS, Tbob, pumping crank, lifting screw, pit chain, and other colliery material.—Apply to Mr. JOHN JARLER, Nailsea, near Bristol. 80

NORTH AND SOUTH WALES.
LAND VALUER AND ESTATE AGENT.—MINERAL PROPERTY carefully SURVEYED, and correctly REPORTED UPON. First-class references in London and the country.—Address, Mr. R. W. JONES, Bryn Hyfryd, Llock, near Holywell, North Wales. 81

JAMES H. COCK, MINE SHAREBROKER AND DEALER, REDRUTH, CORNWALL.
J. H. Cock, having had 10 years' experience in the mining market, and being thoroughly acquainted with mines and their management, is in a position to advise or do business on the most advantageous terms. Cash or time bargains promptly attended to. 82

MR. T. H. ANDREW, MINE BROKER, LELANT, HAYLE, CORNWALL.
Business at all times in Providence, East Providence, Margaret, Kitty (Lelant) Trencrom, St. Ives, Treslyon, Roseswarne Consols, Roseswall Hill, &c. 83

INVESTMENT.—MR. THOMAS SPARGO, STOCK, SHARE, and MINING BROKER, Nos. 224 and 225, GRESHAM HOUSE, OLD BROAD STREET, LONDON, E.C., publishes, every Wednesday, a GUIDE to BRITISH and FOREIGN MINING, and OTHER INVESTMENTS, which should be consulted by all capitalists. Post free on receipt of six stamps. 84

## THE TERRICCIO COPPER MINING COMPANY, TUSCANY (LIMITED).

Incorporated under the Companies Act, 1862, with limited liability.
Capital £50,000, in 25,000 shares of £2 each.
10s. per share on application, and 10s. on allotment.

DIRECTORS.

Sir JOHN HENRY PELLY, Bart. (Governor of the Governor and Company of Copper Miners in England), London.
Prince CHARLES PONIATOWSKI, Florence (honorary).
Baron SONNINO, Florence.
Col. FRENCH (Chairman of the Bombay and Baroda Railway Company), London.
ALEXANDER MACBEAN (H.B.M.'s Consul in Tuscany), Leghorn.
Baron FRENCH (Messrs. French and Co.), Florence.
CHARLES MORRIS, Esq. (Chairman of the United Mexican Mining Co.), London.
WILLIAM MILLAR, Esq. (Messrs. Henderson Brothers), Leghorn.
WILLIAM CREMER, Esq., St. George's-place, Hyde-park London.

MANAGING DIRECTOR—Col. Beek, Leghorn.

BANKERS.

London ..... Messrs. Glyn, Mills, and Co.
Florence ..... Messrs. French and Co.

SOLICITORS—Messrs. Bevan and Whitting, 6, Old Jewry.
SECRETARY (pro tem.)—Mr. J. G. Briggs.
BROKER—William Morris, Esq., 80, Old Broad-street.

OFFICES,—90, GRESHAM HOUSE, OLD BROAD STREET.

The object of this company is to work the copper mine on the estate of Terriccio, the property of Prince Charles Poniatowski, secured under a contract for the term of 25 years, from the 24th November, 1860, and subsequently extended to 40 years, on payment of the sum of £1500. The proprietor has also agreed to accept one-fifth of the shares, free of calls, in lieu of royalty. Full powers have been secured for working any other mines which may exist on the estate.

The lessee of the mine having during the past two years, by an outlay of £3250, practically tested the value of the mineral formation, is so satisfied with the results that he has determined to form the present company, and to take the amount of his expenditure in shares, being convinced that, by deeper sinking, the company will arrive at the same results as were obtained by a similar operation in the neighbouring mine of Monte Catini.

The Terriccio property is of great extent, comprising an area of about 12 miles in circumference, and is situated about 20 miles south-east of Leghorn, with which city it will shortly be in rapid communication, by the opening of the Maremmana Railway, now in course of construction by Messrs. Brassey and Co., having a station distant one mile and a half from the estate.

Its geological conditions are similar to those of the Monte Catini district, adjoining, which contains the valuable mine belonging to Messrs. Sloane and Hall, probably the richest copper mine in existence.

The ores hitherto discovered on the property are of excellent quality, consisting of vitreous copper and yellow copper pyrites and native copper. They occur almost always in detached nodules or fragments, embedded in decomposed steatite, contiguous to the gabro rosso, or red rock. On a powerful vein of this description the lessee has executed works to the depth of 38 fms., with results which he considers most important and encouraging.

Taking into consideration the similarity of the geological conditions, as shown in the report on this mine of Signor Schneider, the mining engineer of the neighbouring celebrated mine of Monte Catini, which yields annually to its proprietors about 3000 tons of copper ore, averaging 30 per cent. of pure copper, the cheapness of labour, and the advantages of railway communication, few mining undertakings offer a fairer assurance of success.

Upon the property there is sufficient surface water for dressing the ores. The labour of good miners may be obtained at wages varying from 1s. to 1s. 6d. a day.

Assays made by Messrs. Johnson and Sons, from parcels of copper ore from the lessees' workings, and which may be seen at their office, show the following favourable results:

Yellow ore..... 22·40 per cent. pure copper.
Grey ore..... 58·40 " "

Assays made from other parcels of copper ore, by Mr. F. Claudet, show the following:

No. 1 sample, with metallic copper ..... 40·95 per cent.
No. 2 sample, with black sulphuret ..... 70·00 "

A large number of shares having been already applied for by parties interested, applications for the remainder will be received, upon which the allotment will be strictly *pro rata*.

Prospectuses and forms of application may be had of the broker, or at the offices of the company, where samples of the ore may be seen, or of the solicitors.

EXTRACTS FROM SIGNOR SCHNEIDER'S REPORT ON TERRICCIO.

After repeated visits of experimental observation made by me to that locality, every time I have been there the characteristics of the ophilithic serpentine formation have forcibly struck my attention, because they are visible in vast extension; therefore, there can be no doubt that they are the same, and the continuation of our mountains representing the group amongst which lies the copper mine of Monte Catini, in the Val di Cecina. So far as regards the indication of the lines of the veins and the substance filling them, they are composed of a paste of ophilithic steatite, well characterised, and in which are found enveloped the balls of mineral, of good quality and flattering aspect. Having taken the whole into consideration, not excluding the topographical conditions, it has always inspired me with a favourable opinion, from which I conclude that a well-studied plan of works, guided by a good and able technical direction, may arrive at the desired end, and obtain advantageous results.

To confirm the above statement, at the wish of Thomas Brassey, Esq., Mr. Rickard, a practical mining engineer, and agent of Messrs. Taylor, inspected the mine. He concludes his report as follows:—

In conclusion, I beg to state, taking into consideration the striking analogy that exists in the character of the lode in this mine to that of the rich lodes in the Monte Catini Mine, as well as the promising appearance of the lode in the levels above described, the richness of the product and the good position as to communication, I think this mine an excellent speculation, and would warmly recommend its being tried in a spirited manner. The surface is well adapted for a cheap and effectual plant, and the rivulet that runs through the concession would supply ample water for dressing purposes. 33

## THE SKARA (NORWEGIAN) SILVER MINING COMPANY (LIMITED).

Grant direct from the King of Sweden and Norway.
Incorporated under the Joint-Stock Companies Act, 1862.
Capital £60,000, in 25,000 shares of £2 each.
Deposit, 5s. per share on application, and 15s. per share on allotment.
No further call to be made within twelve months, and then not exceeding 5s. per share.

DIRECTORS.

The Right Hon. LORD GARVAGH, Carlton Club, S.W.
Sir ROBERT J. CLIFTON, Bart., M.P., Clifton Hall, Nottingham.
WILLIAM COX, Esq., M.P., Harley-road, St. John's-wood (Director of the Linares and Alamillos Mining Companies). [S.W.
BENJAMIN COLLETT, Esq., 2, Royal Exchange-buildings, and 25, Belgrave-road,
JAMES CROSBY, Esq., Streatham (Chairman of the Linares, and Director of the Fortuna Company).
G. LETTSOM ELLIOT, Esq., 7, Hyde-park-gate South, W. [street.
J. H. LUNDT, Esq. (Danish Counsellor of Commerce), Copenhagen, and Winchester-
C. F. SELL, Esq., Kongsberg, Director of the Norwegian Government Mines.
W. J. VIAN, Esq., 64, Cornhill, and the Woodlands, Lewisham, S.E.

AUDITOR—W. Barton Ford, Esq. (public accountant), 28, King-street, Cheapside.
BANKERS—Messrs. Sims and Hill, 3, Bartholomew-lane, E.C.; Messrs. Wilkinson and Ingleby, Hull.
BANKERS—London and County Bank, Lombard-street, E.C.
SOLICITORS—Messrs. R. and S. Muliens, 7, Poultry, E.C.

OFFICES,—2, ROYAL EXCHANGE BUILDINGS, E.C.

ABRIDGED PROSPECTUS.

This company is formed for the purchase and working of the celebrated native silver mines of Norway, known as the Skara Mines.

The exclusive rights over all the precious metals in the entire district are held by the present proprietors in perpetuity, under a grant direct from the King of Sweden and Norway, at a merely nominal rent of 60 specie thalers (about £16) per annum, and they will be conveyed to the company on most advantageous terms, the vendors agreeing to accept £15,500 for their entire interest therein, £10,500 thereof payable in fully paid-up shares.

A full statement will be supplied on application, containing detailed particulars as to the works already in active operation in the district, its great resources, and the general state of mining prospects in Norway for native silver. It has been drawn up from the returns made by the authority of the Norwegian Government. The well-ascertained existence of silver veins of great richness throughout the property does away with the uncertainty usually attendant on mining operations.

The statistics given show that the Norwegian Government mines, during 25 years ending 1858, working on exactly similar ground in an adjoining district, yielded on an average £55,110 per annum, which, after allowing £10,910 yearly for expenses, left an annual average nett profit of £44,700 yearly, while the returns just published for 1859 give a nett profit of £67,326.

By special permission, the official director of the Norwegian Government Mines has joined the board of the Skara, and will render active superintendence and assistance in developing the property of the company. No payment of any kind will be chargeable against the company for promotion, and the preliminary expenses will be confined solely to actual necessary outlay.

Prospectuses in full, with the Government reports and statistics mentioned above, and other reports, with forms of application for shares, can be obtained at the brokers, solicitors, or offices of the company, from any of whom they will be forwarded post free if requested. 56

## THE WEST OF ENGLAND COAL AND IRON COMPANY (LIMITED).

To be incorporated under the Companies Act, 1862, whereby the liability of shareholders is limited to the amount unpaid on their shares.
Capital £100,000, in 20,000 shares of £5 each.
Deposit £1 per share on application, and £1 per share on allotment.
Future calls will not exceed 20s. per share, at intervals of not less than three months.
In the event of no allotment being made, deposits to be returned in full.

CHAIRMAN—T. W. COWAN, Esq., Kent Ironworks, Greenwich.
BANKERS—The Metropolitan and Provincial Bank, Cornhill, London.
BROKER—Mr. A. J. Young, 3, Bartholomew-lane, Bank, London.

TEMPORARY OFFICES,—7, EARL STREET, BLACKFRIARS, LONDON, E.C.

This company is formed for the purpose of working collieries and iron mines in the Forest of Dean.

Prospectuses, reports, and forms of application, to be obtained at the offices of the company. 47

MR. GEORGE HENWOOD, MINING ENGINEER, LOCHHEAD HOUSE, LOCHWINNOCH, SCOTLAND, OFFERS his SERVICES and ADVICE on mines situated in any part of England, Scotland, Wales, Ireland, Isle of Man, &c. Mr. Henwood's extensive experience in his peculiar department of mining science is well known, and will be exerted to the utmost for the benefit of his clients. 88

ASSAYS AND ANALYSES OF ORES, METALS, MANURES, &c., on the most moderate terms, and with the utmost accuracy List of fees per post, on application.
JOHN LONGMAID, CITY LABORATORY AND ASSAY OFFICE,
31, THROGMORTON STREET, E.C. 89

MINING SETTS.—TO BE DISPOSED OF, an EXTENSIVE SETT of a LEAD MINE, in the best part of FLINTSHIRE, and in the heart of good dividends. Also, the SETT of LIME ROCKS, near a railway. Also, of a SLATE and SLAB QUARRY, near a railway and shipping.—Address, "H. W.," MINING JOURNAL office, 26, Fleet-street, London, E.C. 92

GOLD IN WALES.—TO BE DISPOSED OF, SEVERAL MINING SETTS, containing COPPER and OTHER METALS. From assays made, the quartz is found to contain near 6 ozs. of gold to the ton. It is situate a few miles north of the Dolgelly gold district.—Apply to Mr. WILLIAM ANWYL LLOYD, Post-office, Tan-y-Bwich, Merioneth. 91

TO CAPITALISTS.

SHARE OF A LARGE SLATE QUARRY FOR SALE.—TO BE SOLD, a SHARE in a LARGE and very VALUABLE SLATE QUARRY in NORTH WALES, nearly equal to freehold. The abundance, position, and quality of the slate, the water-power, space for spoil, and facilities for carriage of the slate, are all that can be desired. This is an opportunity for an advantageous investment of from £5000 to £10,000 rarely to be met with. Principals or their solicitors only will be treated with.—Apply, in the first instance, by letter, to HENRY EDWD. MURRELL, Esq., Walbrook, London. 93

SLATE QUARRY.—The LEASE of a VALUABLE SLATE PROPERTY, near BEDDLEGERT, within eight miles of PORTMADOC, consisting of 140 acres, immediately adjoining a slate quarry of proved value, FOR SALE, on very moderate terms. A railway is now being made within a short distance of the property, on which several quarries of the best slate can be opened, at very little cost.—Letters to be addressed "Slate Quarry," MINING JOURNAL office, 26, Fleet-street, London, E.C., when terms and full particulars will be given. 93

SLATE QUARRY in the VALE OF FESTINIOG TO BE DISPOSED OF, or the OWNER would be WILLING to TAKE a PARTNER. It consists of a strong vein of blue slate, of fine quality and unlimited quantity, just opened by the owner. The facilities for working are unusually inexpensive and advantageous, water being on the spot, close to a good road, and within a mile of slate wharfs.—Apply to Mr. JOHN LLOYD HART, Maentwrog, Tan-y-Bwich, Merioneth. 94

SLATE, MERIONETHSHIRE.—TO BE LET, some very PROMISING BEDS of SLATE, situated on the sides of hills, near streams.—For particulars, apply to "H. T. R.," Post-office, Bala. 93

WINDING ENGINES FOR SALE.—A PAIR of 4 horse power HORIZONTAL ENGINES, on one bed plate, quite new, fitted with link motion for reversing, and clutch on crank shaft, so as to work each engine separately if required. Price £80.—Apply to Messrs. DEATH and ELLWOOD, Albert Engine Works, Leicester, where the engines may be seen. 96

DRAKE WALLS MINING COMPANY.—Notice is hereby given, that a GENERAL MEETING of the shareholders in this company will be HELD at these offices, on TUESDAY, the 26th inst., at Two o'clock P.M. precisely.

The meeting will be made SPECIAL for the purpose of resolving or otherwise on the expediency of working the West Drake Walls sett as a separate adventure, and to transact any incidental business. HIRAM WILLIAMS, Sec.

1, Winchester-buildings, Old Broad-street, London, May 15, 1863. 97

GREAT NORTH TOLGUS MINING COMPANY (LIMITED).—Notice is hereby given, that a SPECIAL GENERAL MEETING of the shareholders in this company will be HELD at the registered offices of the said company, Nos. 224 and 225, Gresham House, Old Broad-street, in the City of London, on FRIDAY, the 22d of May inst., at Two o'clock in the afternoon, to take into consideration the present position and prospects of the company, and to adopt and pass such resolutions as may then be agreed upon. By order,

May 8, 1863. THOMAS SPARGO, Sec. 98

WEST PAR CONSOLS COPPER AND TIN MINING COMPANY.—Notice is hereby given, that a GENERAL MEETING of the shareholders in this company will be HELD at the office, 117, Bishopsgate-street Within, London, on WEDNESDAY, the 27th day of May inst., at One o'clock precisely.

J. H. MURCHISON, Sec. and Purser.

117, Bishopsgate-street Within, London, May 14, 1863. 99

THE GREAT BARRIER LAND, HARBOUR, AND MINING COMPANY (LIMITED).—Notice is hereby given, that the SIXTH ORDINARY GENERAL MEETING of shareholders in the above company will be HELD on FRIDAY, the 29th day of May inst., at the offices, 117, Bishopsgate-street Within the City of London, at One o'clock precisely. By order of the Directors.

May 12, 1863. J. H. MURCHISON, Sec. 100

SIX PER CENT. DEBENTURES.

## THE GREAT BARRIER LAND, HARBOUR, AND MINING COMPANY (LIMITED).

Capital subscribed, £50,000.

DIRECTORS.

Col. BAZALGETTE, 23, Dorset-square, Regent's-park.
MICHAEL HALL, Esq., 20, East India Chambers, Leadenhall-street.
THOMAS MOXON, Esq., 29, Throgmorton-street, and Stock Exchange.
PARKE PITTAR, Esq. (Messrs. P. Pittar and Co.), 26, Gresham-street.
PHILIP WRIGHT, Esq., 20, Adelaide-road North, and of Auckland, New Zealand.

SOLICITORS—Messrs. Bischoff, Coxe, and Bompas, 19, Coleman-street.
BANKERS—The Bank of London, Threadneedle-street.

At an EXTRAORDINARY GENERAL MEETING of the shareholders in the company, held on the 21st April, 1863, it was resolved to create £20,000 of debentures of £50 each, for five years, bearing interest at the rate of 6 per cent. per annum, free of income tax, payable half-yearly, and be a first charge on the company's extensive and valuable freehold property, saw-mills, farms, &c., in New Zealand. It has been resolved to issue only £10,000 for the present, and of this sum upwards of £4000 is already subscribed for.

The directors are prepared to receive applications for the balance of these debentures, and forms of application for the same, together with further information, can be obtained at the office of the company, 117, Bishopsgate-street Within, London, E.C. 101

ISSUE OF DEBENTURES.—The Directors of the WHEAL ELLEN (SOUTH AUSTRALIA) MINING COMPANY (LIMITED) OFFER the BALANCE of £15,000 TEN PER CENT. DEBENTURES, secured by mortgage on their valuable real estate and mines in South Australia. A considerable portion of this issue has been already subscribed for. The debentures are for five years, with certain bonuses.

Further particulars may be obtained, and forms of subscription will be supplied, on application at the offices of the company, 51, Threadneedle-street, E.C.

May 16, 1863. By order, J. BROWN, Sec. 102

WEST DEVON CONSOLIDATED COPPER MINING COMPANY (LIMITED).

Operations on this mine were resumed by the present company about two years since, with a capital of £10,000, leaving after purchase of lease, &c., £5500*l.*, which amount has been found insufficient to develope the lodes which have proved so eminently rich in Devon Great Consols, whose lodes traverse the sett, the boundary of the two mines being the River Tamar.

The discoveries at West Wheal Maria and Fortescue on the east, at New Wheal Martha (where the lode is worth 20 tons per fathom) on the west, with the recent discovery at Latchley Consols (where the lode is producing 4 to 5 tons per fm., and which is within a few fathoms of the boundary of and running parellel with the lode in West Devon) on the south, are among the many chief features of this mine.

The greatly-improved prospects which are now opened by the development of surrounding mines have induced the proprietors of West Devon Consols to determine on issuing 10,000 more shares at 10s. per share, to rank equally with the 10,000 £1 paid shares, and to give the mine a more vigorous and efficient trial, by opening out its vast mineral resources, of which there can be no doubt. The property, with this view, has been recently inspected by Capt. JAMES SECCOMBE, of East Phœnix and other mines, whose opinion of its prospects and early success fully confirms those previously furnished by Capt. JAMES RICHARDS, of Devon Great Consols; Capt. THOMAS GILL, late mineral agent for the Duchy of Cornwall; Capt. Z. WILLIAMS, of Wheal Friendship; Capt. JAMES DONNAL, of Devon Union; and JEHU HITCHINS, Esq., of London. Copies of whose reports, with the fullest and most satisfactory information, will be supplied on application to the secretary, Mr. E. S. HARDING, No. 1, Great Winchester-street, London, E.C., or Mr. JAMES LANE, No. 44, Threadneedle-street, London, E.C., who request that immediate applications for the remaining shares—which are being appropriated as applied for—should be made.—London, May 15, 1863. 103

## CORNUBIA TIN MINING COMPANY (LIMITED).

INCREASE OF CAPITAL TO £20,000.
Original capital £14,000, in 7000 shares of £2 each.
REGISTERED OFFICES,—12, SOUTH PARADE, LEEDS.

These mines are situated in the county of Cornwall, in the St. Austell district, long celebrated for the production of tin, and during the past two years the company have expended upwards of £14,000 in the erection of two powerful steam-engines, calculated to command the works for many years to come; erected 32 heads of steam-stamps; three water-wheels, one for stamping, and two designed for winding and drawing the ore; unwatered and secured four shafts, and very extensive underground works. Six large tin lodes are now being worked upon, and since the steam-stamps went to work in January last 16 tons of tin has been raised and sold for the sum of £1101; the sales of tin are now about £400 per month, and by the addition of 32 more heads of stamps, which the present engine is capable of driving, the returns may be more than doubled, at the small extra cost of labour only.

To erect the additional machinery with all speed, and which may be completed by the beginning of July next, it has been determined to issue 3000 new shares of £2 each, 10s. deposit, calls not exceeding 5s. per share, at not less intervals than three months, such shares to carry 10 per cent. preferential interest out of the first earnings of the company, and redeemable within three years, at 10 per cent. bonus upon the amount called up. The directors are of the opinion that not more than 20s. upon each share will be required.

At an extraordinary general meeting, held on the 27th inst., it was unanimously resolved to create such new capital, and upwards of 1000 shares were subscribed for; it was also further resolved that the remainder be offered to the public, according to priority of application.

Favourable reports of the position and prospects of the mine have been received from Capt. Charles Thomas, of Dolcoath; Capt. Josh. Vivian, of North Roskear; and Capt. Daw, of Carn Brea; which can be seen at the company's office.

The latest information from the agent at the mine will be found in the usual columns.

Applications in the form annexed are requested to be made to the secretary, JOHN EVERARD UPTON, Esq., 12, South Parade, Leeds.

To the Directors of the Cornubia Tin Mining Company (Limited).
Increase of Capital to £20,000 by issue of 3000 Preference Shares of £2 each.

I request you will allot to me shares in the new issue, and I agree to accept them, sign the Articles and Memorandum of Association, and pay the deposit of 10s. a share on or before the 14th proximo.

Name .....
Address .....

Dated this day of , 1863. 104

In the Court of the Vice-Warden of the Stannaries.
Stannaries of Cornwall.

*IN RE EAST ALFRED CONSOLS MINE.*

TO BE SOLD, pursuant to an Order made in a Cause Painter *v.* Barnett and Others, dated the 10th of January last, BY PUBLIC AUCTION at the Registrar's office, Truro, on Wednesday, the 27th day of May inst., at Twelve o'clock at noon,—

40 (4096ths) SHARES of the defendant Thomas Barnett.
40 (4096ths) SHARES of the defendant John Hooper Harper; and
1 (4096ths) SHARE of the defendant William Youlten.

Of and in the said MINE.

HENRY SEWELL STOKES, Solicitor, Truro.
(Agent for Roscoria and Davies, Plaintiff's Solicitors, Penzance).

Dated Registrar's Office, Truro, May 14, 1863. 105

In the Court of the Vice-Warden of the Stannaries.
Stannaries of Cornwall.

IN the MATTER of the COMPANIES ACT, 1862, and of the OLD TOLGUS UNITED MINING COMPANY.—Notice is hereby given, that a PETITION for the WINDING-UP of the ABOVE-NAMED COMPANY by the Court was, on this 9th day of May, presented to the Vice-Warden of the Stannaries, by William John Rawlings, a creditor and also a contributory of the said company, and that the said petition is directed to be heard before the Vice-Warden, at the Prince's Hall, Truro, on Monday, the 25th day of May inst., at Twelve o'clock at noon.

Any contributory or creditor of the company may appear at the hearing and oppose the same, provided he has given at least two clear days' notice to the petitioner, his solicitors, or agents, of his intention to do so, such notice to be forthwith forwarded to the secretary of the Vice-Warden, P. P. Smith, Esq., Truro, Cornwall.

Every such contributory or creditor is entitled to a copy of the petition and affidavit verifying the same, from the petitioner or his solicitors, within 24 hours after requiring the same, on payment of the regulated charge per folio.

Affidavits intended to be used at the hearing, in opposition to the said petition, must be filed at the Registrar's office, Truro, on or before Friday, the 22d day of May inst., and notice thereof must at the same time be given to the petitioner, his solicitors, or agents.

HODGE, HOCKIN, AND MARRACK, Solicitors, Truro
(Agents for Messrs. Whitford and Sons, St. Columb, Solicitors for the Petitioner).

Dated Truro, May 9, 1863. 106

In the Court of the Vice-Warden of the Stannaries.
Stannaries of Devon.

IN the MATTER of the COMPANIES ACT, 1862, and of the SILVER BROOK MINING COMPANY.—By an order made by his Honour the Vice-Warden of the Stannaries in the above matter, dated this 12th day of May, on the petition of Thomas Nicholls, of Tavistock, within the said Stannaries, a creditor, and also a contributory of the said company, it was ordered that the said SILVER BROOK MINING COMPANY should be WOUND-UP by this Court, under the provisions of the Companies Act, 1862.

EDWARD CHILCOTT, of Tavistock
(Solicitor for the said Petitioner).
J. G. CHILCOTT, Truro
Dated Truro, May 12, 1863. (Agent of the said Solicitor). 107

COPPER MINE AND MACHINERY FOR SALE, BY PRIVATE BARGAIN.—The subscriber is PREPARED to RECEIVE OFFERS for his INTEREST in the LOCHWINNOCH CONSOLS COPPER MINE, RENFREWSHIRE, SCOTLAND, and also for the MACHINERY and other EFFECTS, consisting of a HIGH PRESSURE STEAM ENGINE, with cylinder 16 in. diameter, and 3 ft. stroke, with BOILER, &c. Also, IMPROVED PATENT PUMPING and WINDING APPARATUS, and CRUSHING MACHINE, all of the most improved construction and superior workmanship, very little used. And a quantity of undressed ore, &c., at the mine.

This valuable property, from which upwards of 700 tons of good grey ore have been raised, and a portion of which has yielded as high as 10½ per cent. copper, and 7 ozs. of silver per ton, is near Glasgow, and about three miles from railway. A shaft has been sunk to a depth of 18 fms., and the works are complete and in good order.

The mine and materials will be pointed out by WILLIAM ORR, Esq., of East Kame, Lochwinnoch; and further particulars will be furnished on application to Messrs. FISHER and WATT, solicitors; or Messrs. MITCHELL and WATSON, C.A., Glasgow.

May 14, 1863. MONCRIEFF MITCHELL, Liquidator. 108

EXMOUTH MINE, CHRISTOW, DEVON.—TO BE SOLD, BY PRIVATE CONTRACT, the FOLLOWING ENGINES:—ONE 22 in. cylinder HORIZONTAL ROTARY ENGINE, with 8 ton BOILER. ONE 22 in. cylinder CRUSHING ENGINE AND CRUSHER, with shafting complete, and 10 ton BOILER.—For particulars of price, &c., apply to Capt. J. P. NICHOLLS, on the mine; or to Mr. C. WESCOMB, 24, Southernhay, Exeter. 109

SPARE MINE MATERIALS FOR SALE, WHEAL SIDNEY, PLYMPTON, DEVON:—

| | |
|---|---|
| 28 7 in. 9 ft. pumps. | 1 8 in. 12 ft. working. |
| 1 6 in. 9 ft. working. | 4 13 in. 9 ft. pumps. |
| 1 6 in. 3½ ft. doorpiece. | 1 12 in. 9 ft. working. |
| 1 6 in. 9 ft. windbore. | 1 12 in. 3½ ft. doorpiece. |
| 15 8 in. 9 ft. pumps. | 1 12 in. 9 ft. windbore. |
| 5 9 in. 9 ft. ditto. | 1 14 in. 13 ft. working. |

All in good condition. For further particulars, apply to Capt. W. EDWARDS, on the mine.—Dated May 12, 1863. 110

THE BISHOPWEARMOUTH IRONWORKS, SUNDERLAND.—These VALUABLE PROPERTIES, with the ROLLING MILLS and all OTHER MACHINERY, the property of the DERWENT AND CONSETT IRON COMPANY (LIMITED) WILL SHORTLY be SUBMITTED to PUBLIC AUCTION, by direction of the trustees, and under the sanction of his Honour the Vice-Chancellor Kindersley. The time and place of sale, together with further particulars, will shortly appear. JOSEPH ANDERSON, Newcastle-upon-Tyne

May 11, 1863. (Solicitor to the Trustees). 111

COUNTY OF LANARK.
UPSET PRICES GREATLY REDUCED.

THE DUNDYVAN IRONWORKS, AND OTHER PROPERTIES, SITUATED NEAR COATBRIDGE, FOR SALE (as already more fully advertised).—There will be exposed to PUBLIC SALE, within the Faculty Hall, Glasgow, on Wednesday, the 20th day of May, 1863, at Two o'clock afternoon (unless previously disposed of by private bargain),

LOT 1.—The DUNDYVAN PIG and BAR IRONWORKS, comprising—

1.—The PIG IRONWORKS, consisting of EIGHT BLAST FURNACES, with all the usual working conveniences, counting-house, warehouse, stables, &c.

2.—The BAR IRONWORKS, consisting of FORTY-FOUR PUDDLING FURNACES, with all usual working conveniences, capable of turning out 350 tons of finished iron weekly, consisting of plates, rails, and bars in great variety.

3.—ONE HUNDRED AND FIFTY-FOUR WORKMEN'S DWELLINGS, known by the names of "Long Row," "English Square," and "Stone Row."

4.—The LANDS of DYKE, with FARM BUILDINGS, STEAM ENGINE, THRASHING MILL, RAILWAY, &c., thereon.

The above subjects extend to above 35 acres imperial, and the minerals therein will be included, in so far as belonging to the exposers, with the machinery, fittings, and fixed plant, at Dundyvan Pit.

5.—The MINERALS HELD IN LEASE, consisting of DRUMPELLER, SOUTERHOUSE, and DALZIEL COAL, and WHIFFLAT and HOLEHILL IRONSTONE, with the whole MACHINERY, FITTINGS, RAILWAYS, and FIXED PLANT of every kind attached thereto.

The purchaser of this lot will also be entitled to a lease, on favourable terms, of the valuable ironstone in the estate of Arden, extending to 1100 acres, or thereby, and to the option of taking at a valuation the moveable stock and utensils connected with the mines and ironworks; and also the farm leases of Whiffiat and Souterhouse Farms, including implements and utensils, all as per inventories.

LOT 2.—The LANDS of DUNDYVAN, extending to about 47 acres imperial, or thereby, with the BUILDINGS erected thereon, together with the MINERALS in the lands, in so far as belonging to the exposers.

Lots 1 and 2 will, in the first instance, be put up as one subject, at the upset price of £51,500; if not sold together, Lot 1 will then be exposed separately at the upset price of £45,000, and if sold separately Lot 2 will thereafter be exposed at the upset price of £6500.

LOT 3.—The MINERALS in the LANDS of CUPARHEAD, about 21 imperial acres in extent. These are believed to contain, entire, the whole seams known in the district. Upset price, £1750.

LOT 4.—The ONE HUNDRED AND TWENTY-EIGHT WORKMEN'S DWELLINGS situated in Buchanan-street and Poker-row. Upset price, £2500.

For further particulars, apply to Messrs. AITKEN and MACKENZIE, accountants, Glasgow; Messrs. MACKENZIE and MOORE, mining engineers there; Messrs. MELVILLE and LINDESAY, W.S., Edinburgh; Messrs. MONCRIEFF, PATERSON, FORBES, and BARR, writers, Glasgow; of Messrs. BANNATYNES and KIRKWOOD, writers there, the last of whom will exhibit the titles and articles of roup.

TO BE SOLD, this month only, BY PRIVATE TREATY, SCORRIER CONSOLS MINE, MACHINERY, and PLANT, consisting of a new 30 in. ROTARY CONDENSING ENGINE, 9 ft. stroke, with BOILER, fly-wheel, pumping crank, and cage, complete; shears, 60 fms. pitwork, about 100 fms. flat-rods, chains, 2 horse whims, and the usual plant of a young mine in excellent working order.

To view, apply to Capt. DANIEL, on the mine; and to treat for the same, apply to Mr. TIMOTHY PAINTER, jun., Camborne.—May 16, 1863.

P.S.—Scorrier Consols Mine adjoins North Treskerby, within twenty minutes' walk of Scorrier station. Engine-shaft sunk only 60 fms. from surface, and well deserving further trial. 112

TO BE SOLD, BY PRIVATE TREATY, a small FREEHOLD PROPERTY, with the MINERALS thereunder, situate in TRYDDYN, near MOLD, NORTH WALES. The coal seams of the district have been proved by boring, and the Cannel is being worked at an adjoining colliery. Any quantity of adjacent land can be had on lease, and railway communication is nearly complete to the Mold branch.—Apply to T. L. COTTINGHAM, Mold. 113

TO BE SOLD, BY PRIVATE CONTRACT, ONE 50 in. cylinder PUMPING ENGINE, with equal beam, and 10 ton BOILER; ONE 10 in. ROTARY ENGINE, and 2½ ton BOILER; crab winch, pulley blocks and chain. The above is on the sett of the DEVON BULLER MINE, in the parish of BUCKLAND MONACHORUM, DEVON, which is situate within two miles (on a good road) of the Horrabridge station of the Tavistock Railway, and affords easy transit.—To treat for the same, apply to Mr. GEORGE DOWN, Cathedral-yard; or to Messrs. WARE and SON, auctioneers, Paris-street, Exeter.—Dated May 8, 1863. 114

HEMATITE IRON ORE.—FOR DISPOSAL, an IRON MINE, containing a LARGE DEPOSIT of RED HEMATITE ORE, which has been recently laid open. The ore yields from 50 to 60 per cent. of metal, and is free from sulphur or spar. An outlay of about £500 is wanted to lay the mine open, so as to yield from 1500 to 2000 tons of ore per month. The cost of getting the ore is about 1s. per ton, and carriage to port 1s. 6d. per ton. Any person with £2000 at command may have immediate possession.—Principals or their solicitors may address "F.Q.," MINING JOURNAL office, 26, Fleet-street, London, E.C. 115

TO CAPITALISTS—PROFITABLE EMPLOYMENT OF CAPITAL IN WESTPHALIAN COAL PITS.—There are at present FOUR COAL FIELDS FOR SALE in the immediate neighbourhood of some of the most famous pits in Westphalia, by which their condition, with regard to depth and thickness of the seams, has been ascertained as accurately as possible. They are traversed by railways and high roads, and quite close to a navigable tributary of the Rhine, and contain, according to technical calculations, to a depth of 100 fathoms, 80,000,000 scheffer, or 4,000,000 tons, of coal, and the same quantity would be produced from each following 100 fathoms. The coal fields extend over a mining area of about 1616 Prussian morgen, or about 1000 acres English.

The coals are of excellent quality, and not only fit for coking, but also for house and steam coals.

The working expenses have been calculated upon the highest scale that would under any consideration be paid, and the returns have been estimated upon the price which the coal would fetch under present unfavourable circumstances, yet the receipts would exceed the outlay by from 35 to 50 per cent.

The price demanded for the fields is very small, and a profit of from 15 to 20 per cent. per annum could be realised upon the entire necessary outlay, both for purchase money and working capital.

The coal market is not very lively at present, but a glance at the already finished and newly-projected railways in that district will at once convince the most doubtful that the demand for Westphalian coals will have many fold increased until the time the pit will be in working order. There are also numerous iron-foundries and similar establishments springing up in that district, which of course will operate favourably upon the coal market.

Applications addressed to "Westphalian Coal Mines," MINING JOURNAL Office, 26, Fleet-street, London, E.C., will be promptly replied to, with full particulars. 117

TO COAL AND IRONMASTERS, AND OTHER CAPITALISTS.

CHARITY COLLIERY, BEDWORTH, WARWICKSHIRE.—TO BE LET, and entered upon immediately, the whole of the VALUABLE MINES of COAL and IRONSTONE, now in full work at the above colliery.

These mines are well worthy the attention of capitalists desirous of embarking in mining speculations, as a large area of coal is already opened out, and the present plant may be extended by a moderate outlay through the shafts already sunk, to win the remaining portion of coal, which consists of upwards of 70 acres of fully 20 feet thick of marketable coal.

This colliery is situate at Bedworth, in the county of Warwick, in the middle of a populous neighbourhood, being distant from Coventry only five miles, from Nuneaton three, and from Atherstone seven.

The Coventry Canal passes through the colliery, as also does the Coventry and Nuneaton branch of the London and North-Western Railway, affording a cheap outlet for the products of these mines to all parts of the kingdom.

The coal is of a superior quality, and much sought after as fuel for furnaces, brickyards, and locomotive engines on railways, as well as for general domestic purposes.

The ironstone is of a very rich quality, yielding a large percentage of good malleable iron, and is exported in large quantities from the works to the smelting furnaces in South and North Staffordshire, where it is found to combine with advantage with the other ironstones which are smelted at those works.

For a view of the colliery, apply to Mr. I. P. EVANS, of Griff, near Nuneaton, the bailiff to the Governors of Bedworth Hospital (who are the proprietors of the colliery), at whose office can be seen plans of the colliery and estate; and for any further particulars to Messrs. WOODHOUSE and JEFFCOCK, mining engineers, Derby; and to me, at my office in Bayley-lane, Coventry. CHARLES WOODCOCK,

Clerk to the Governors of Mr. Nicholas Chamberlain's Charity in Bedworth.

Coventry, April 20, 1863. 118

TO BE LEASED, and may be entered upon immediately, a very ELIGIBLE COLLIERY and FIRE-CLAY WORKS, situate about three miles from WAKEFIELD.—For particulars, enquire of Mr. JAS. FAWCETT; or of Mr. S. E. CARRINGTON, Stockport. 119

TO PROPRIETORS OF SMELTING WORKS.—A LARGE COMPLEX of BROWN IRON ORE PITS, of only 1¼ hour's distance from the Rhine, with convenient communication, is TO BE SOLD BY PRIVATE CONTRACT, on advantageous conditions. The various pits are provided with shafts, stulms, and water conduits, and can be set to work immediately. The product is one of the best brown iron ores of Nassau. Some of the pits furnish iron ore containing manganese, and another lead and silver ore.—For further particulars, apply to SCHROEDER and STADELMANN, Grenzhausen, near Coblenz, manufacturers of earthy and mineral colours. 120

SMELTING WORKS FOR LEAD AND ZINC ORES, NOW IN FULL OPERATION, IN WALES.—TO BE DISPOSED OF, an OLD ESTABLISHED BUSINESS, with PREMISES and PLANT, adapted for SMELTING LEAD and ZINC ORES, and for the MANUFACTURE of SHEET LEAD and LEAD PIPE, to the extent of about 35 tons per week; also, for DESILVERISING LEAD.

The works are most desirably placed on a line of railway, and with water communication. About £15,000 will be required. One-half the purchase money may remain on mortgage.

For further particulars, apply to Messrs. FULLER and HORSEY, 13, Billiter-street, London, E.C. 121

NOTICE.

BLACKSWARTH LEAD SMELTING WORKS, ST. GEORGE'S, NEAR BRISTOL.—Messrs. JAMES AND JOSIAH WILLIAMS, MANUFACTURING SILVERSMITHS, of BRISTOL, beg to announce that they have succeeded the late Thomas Somers, Esq., in the above works, and will be happy to receive samples of lead and silver ore from the various mining companies, addressed 18, St. Augustine's Parade, Bristol. 122

GENTLEMEN OF THE MINING MARKET, AND FRIENDS,—In consequence of a long and serious illness, the total depreciation during that period of my mining stock, the inability of some and the disinclination of others to pay what they owe me (altogether a great sum), and my failing to get permanent employment, although I have tried, without exaggeration, in a thousand different channels, I have become reduced from affluence to such indigence as to be induced, as a last resort, thus to seek eleemosynary aid.

Throughout my commercial transactions I had not one which left a slur upon my reputation, and I speculated for myself and a good connection extensively. Indeed, I left off dealing in mining stock with nothing for myself but my good name, stung with the arrows of outrageous fortune.

Ever since my path of life hath been beset with troubles and anxieties—with those trying and exhausting troubles which require the whole strength of the human heart to bear, and to endure which, and perform the duties they create, going on indomitably struggling as an honest man with adversity, and still maintaining one's integrity and probity with magnanimity, are, I conceive, sufficient self-recommendations.

In passing through this ordeal, I have profoundly learnt that "strength is born in the deep silence of long-suffering hearts, not amidst joy." Guided thereby, my intention—aye, I may say, my determination—is to persevere until I have retrieved my position by respectable and suitable employment.

Your subscriptions on account of my present necessities, and in support of my honest intentions, will, I beg to assure you, be gratefully received and economically applied. The Editor of the *Mining Journal* will be so good as to receive them; they will be duly acknowledged.

So placed, above the daily anxiety of living from hand to mouth, I shall, while watching for whatever may offer in the way of employment, endeavour to produce something in literature above mediocrity, and also remunerative.

I am, Gentlemen, your very humble servant, JAMES STRIDE.

Jamaica Coffee House, St. Michael's-alley, Cornhill, May 14, 1863. 123

MR. D. STICKLAND, M.E., having had upwards of 40 years' mining experience in Cornwall, several years of which he has had the entire management of mines therein, enables him to GIVE GOOD ADVICE thereon.

MINES INSPECTED and faithfully REPORTED ON. DEALER in MINING, RAILWAY, and OTHER SHARES.

His monthly "Circular" for May contains important information on legitimate mining, also a selected list of dividend and progressive mines. Forwarded on receipt of six postage stamps.—5, Finsbury-street, Finsbury-square, London. 124

MANCHESTER.

MR. W. HANNAM: OFFICES, ROYAL INSURANCE BUILDINGS, KING STREET, MANCHESTER.

MINING, SLATE QUARRYING, INSURANCE, and GENERAL STOCK and SHAREDEALER.

A monthly investment Circular on application.

Sharedealing in this office is limited to special mines, and companies whose pretensions have been personally investigated, and to the dividend-paying mines ordinarily dealt with on the London market, and for the latter purpose arrangements have been made for the earliest information from the great mining districts. There can be little doubt that in dealing with well-established, dividend-paying mines, investors, without any greater risk than accrues from purchase of railway or house property, receive a much larger regular profit than from any other species of investment, free from all trouble, and paid in the most convenient form for those who have limited incomes—viz., every two or three months; while those who enter into new undertakings, such as progressive mines, have the knowledge that nothing which is not *bona fide*, and has stood the test of thorough examination, is submitted to them. It cannot, of course, be expected that where the profits are so enormous that these latter investments should be entirely free from risk. All that can be done is to ascertain the respectability of the management, and the value of the prospects. This done, no speculations are likely to be so valuable as those in mining operations; it being no uncommon occurrence for shares to rise in value 200 and 300 per cent. in a few months. 125

BRITISH AND FOREIGN STOCK, SHARE, AND MINING OFFICES.

Messrs. T. FULLER AND CO., 26, CHANGE ALLEY, CORNHILL, LONDON, TRANSACT BUSINESS in EVERY DESCRIPTION of SHARES in BANKS, RAILWAYS, CANALS, INSURANCE, MINES, and GOVERNMENT STOCK. Dividends received, calls paid, and every class of Stock Exchange business effected.

There being a considerable amount of money locked up in shares not prominently before the public, and consequently difficult of sale, Messrs. T. FULLER and Co. invite the holders of such stock to communicate with them, having channels for the disposal of every description of shares.

FOR SPECIAL SALE:—Shares in an established company (limited), the property freehold; and in several mines which pay regular dividends of 12½ to 20 per cent.

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Commission, 1¼ per cent.

Bankers: Metropolitan and Provincial. 126

THE MUTUAL LIFE ASSURANCE SOCIETY (A.D. 1834), 39, KING STREET, CHEAPSIDE, LONDON, E.C.

The bonuses have averaged more than 2½ per cent. per annum on the sum assured. Prospectuses, and the last report, to be had on application.

CHARLES INGALL, Actuary. 127

TO INVENTORS.—All INTENDING PATENTEES should PROCURE the PRINTED INFORMATION regarding PATENTS, their COST and the MODE of PROCEDURE to be adopted, ISSUED GRATIS by the GENERAL PATENT COMPANY (LIMITED), 71, FLEET STREET, LONDON.

R. MARSDEN LATHAM, Sec. 128

**International Exhibition, 1862.**

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STAMP END WORKS, LINCOLN; and 78, LOMBARD STREET, LONDON.

Descriptive, illustrated, and priced catalogues free per post. 182

**Prize Medal, International Exhibition, 1862.**

AVELING AND PORTER'S PATENT TRACTION ENGINES AND LOCOMOTIVES FOR MINERAL RAILWAYS.

For prices, illustrated description, and testimonials, apply to AVELING and PORTER, engineers, Rochester, Kent. 130

**To Silver and Gold Miners.**

THE CONCENTRIC BELL AMALGAMATING AND WASHING MACHINE.

WILLIAM REAY, Jun., has the honour to inform his friends and the mining public that he has recently patented, under the above name, a perfectly NEW DESCRIPTION of MACHINE for AMALGAMATING GOLD and SILVER ORES, and for SEPARATING the GLOBULES of QUICKSILVER and AMALGAM, which remain in the residues from other systems of amalgamation.

One of these small machines, of 4 ft. 6 in. (outer bell) diameter, will easily amalgamate 6 to 8 tons of ore (in bulk) per day, with less than 1 horse power; and, if placed below a circular battery of stamps of six heads, could be worked by the same spindle, and amalgamate all the pulverised ore thence proceeding.

The gold is first forced through a column of 6 in. of mercury; then, if not absorbed, it is gently rubbed by the floating balls, and, thus cleaned, passes through three columns of mercury of 2 inches each, before it can escape from the apparatus, in which upwards of 15,000 square feet of cleaned mercury are displayed per minute, over and through which the 6 to 7 lbs. of ore per minute have to pass!

Parties desirous of availing themselves of this machine will meet with prompt attention by addressing their letters to WM. REAY, Jun., Thropton Hill, Rothbury, Northumberland; or to him, care of W. S. HOLT, Esq., Marine Brewery, Ratcliff-cross, London, E.—April 27, 1863. 131

BEDFORD IRONWORKS, TAVISTOCK.

NICHOLLS, WILLIAMS, AND CO. have generally a GOOD STOCK of SECOND-HAND MINING MATERIALS FOR SALE. They also MANUFACTURE STEAM ENGINES of every description on the newest principle. Castings and wrought-iron work made at the shortest notice. Machinery sent to all parts of the world. Steam boilers and chains warranted of the best description. 132

ELLIS LEVER, INVENTOR and MANUFACTURER of the IMPROVED SAFETY BRATTICE and FLEXIBLE TUBING, 23, MARSDEN SQUARE, MANCHESTER. MANUFACTORY,—WEST GORTON WORKS, MANCHESTER. 133

RAILWAY WAGONS.—WILLIAM A. ADAMS AND CO., MIDLAND WORKS, BIRMINGHAM.

BROAD AND NARROW GAUGE COAL AND IRONSTONE WAGONS, IN STOCK—FOR SALE OR HIRE. 134

RAILWAY WAGONS.—J. H. SALES AND CO., WEST RIDING WORKS, SHEFFIELD.

RAILWAY WAGONS on SALE. RAILWAY WAGONS on HIRE.

RAILWAY WAGONS on SALE on PURCHASE LEASES.

For terms, apply as above, where sample wagons may be inspected. Material and workmanship guaranteed. 135

RAILWAY STONE AND COAL WAGONS TO BE LET. Apply to Messrs. W. L. and T. UNDERHILL, Tipton. 136

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Mr. J. H. CHANDLER, Secretary.

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RAILWAY WAGONS FOR HIRE at annual rentals, or tonnage rates. Apply as above. 138

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BRINSWORTH WAGON WORKS, ROTHERHAM. 139

SHORTRIDGE, HOWELL, AND CO., HARTFORD STEEL WORKS, SHEFFIELD, SOLE MANUFACTURERS of HOWELL'S PATENT HOMOGENEOUS METAL PLATES for BOILERS, LOCOMOTIVE FIRE BOXES, and TUBES, COMBINING the STRENGTH of STEEL with the MALLEABILITY of COPPER. RUSSELL AND HOWELL'S PATENT CAST STEEL TUBES. McCONNELL'S PATENT HOLLOW RAILWAY AXLES.—For prices and terms, apply to SHORTRIDGE, HOWELL, and Co., Hartford Steel Works, Sheffield; or Messrs. HARVEY and Co., 12, Haymarket, London. 140

WILLIAM J. SMITH, ENGINEER AND CONTRACTOR, BELMONT, near DURHAM, UNDERTAKES the SINKING of PITS, also the SUPPLYING, ERECTING, REMOVING, and COMPLETION of EVERY DESCRIPTION of COLLIERY and MINING WORK. 141

EDWARDS'S PATENT MINERAL ORE AND COAL WASHING MACHINE.—This is by far the MOST ECONOMICAL, as well as the MOST PERFECT MACHINE MADE. Each machine is capable of washing 25 to 50 tons per diem, according to quality.—Full particulars, testimonials, &c., may be obtained from E. EDWARDS, Esq., C.E., 1, York-buildings, Adelphi, where a working model may be seen. 142

Adopted by the Governments of Great Britain, Spain, Denmark, Russia, Brazil, East and West Indies.

EASTON'S PATENT BOILER FLUID, FOR REMOVING AND PREVENTING INCRUSTATION IN STEAM BOILERS, LAND AND MARINE.

P. S. EASTON AND G. SPRINGFIELD, Patentees and Sole Manufacturers, 37, 38, and 39, WAPPING WALL, LONDON, E., Or of their Agents in the principal towns of Great Britain and the Colonies. 143

TO ENGINEERS, COLLIERY OWNERS, AND OTHERS.

POW AND FAWCUS, CHAIN MANUFACTURERS, ANCHORSMITHS, and FOUNDERS, at NORTH SHIELDS IRONWORKS, beg to inform their friends and the public that they have taken, in addition to their works at North Shields, WINLATON ROLLING MILL and SWALWELL IRONWORKS, lately occupied by the old established firm of CROWLEY, MILLINGTON, AND Co., where they intend to make iron, steel forgings, castings, and the various other articles manufactured by the late firm. They expect, by employing first-rate workmen, and by paying particular attention to the quality of the goods manufactured, to keep up the good reputation enjoyed by their predecessors.—North Shields, May 1, 1863. 144

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TWO THOUSAND SPECIMENS, illustrating the application (ornamental and useful) of these interesting metals are now on view at—

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DINAS FIRE-BRICKS.—Messrs. FREDERICKS AND JENNER beg to offer these well-known bricks, either at their Dinas Bridge or Kidwelly Works, and can safely recommend them as EQUAL, if not SUPERIOR, to ANY FIRE-BRICKS MANUFACTURED, having the highest testimonials from the largest copper smelters and consumers in the world.—Full particulars, with testimonials, prices, &c., can be had on application to their agent, Mr. GEORGE YOUNG, Briton Ferry, South Wales; the Dinas Bridge Brick Works, Glyn Neath; Kidwelly Brick Works, Kidwelly; or Messrs. EASTWOOD, Belvidere-road, London. 146

SALE OF BASTIER'S CHAIN PUMP PATENT.—Mr. J. U. BASTIER is DESIROUS of FINDING a PARTNER for CONTINUING the DEVELOPMENT of his ENGLISH PATENT for his CHAIN PUMP, or he is WILLING to SELL the ENTIRE or PART of HIS INTEREST therein. He proposes to grant four exclusive licenses for the full term of the patent, for England, Scotland, Ireland, and Wales respectively:—

For the license for England, he demands the sum of £2000 for the unreserved transfer, or £1000 if 25 per cent. of the nett profits be secured to him.

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And for the license for Wales, he demands £1200 for unreserved sale, or £600 with 25 per cent. of profits.

Address, J. U. BASTIER, C.E., 47, Warren-street, Fitzroy-square, London. 147

ASSAYS AND ANALYSES OF EVERY DESCRIPTION Conducted by JOHN MITCHELL, F.C.S., M.G.A. (late Mitchell and Rickard) Author of "Manual of Practical Assaying," "Metallurgical Papers," &c.

All communications and samples to be addressed (free) to Mr. MITCHELL, care of Mr. P. Clay, 29, Great St. Helen's, London, E.C. 148

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GILL AND CO., ENGINEERS AND IRONFOUNDERS, MANUFACTURERS of STEAM ENGINES and BOILERS. CHAINS of ALL DIMENSIONS. STEELED SHOVELS to any pattern. EVERY DESCRIPTION of CAST and HAMMERED IRON for MINING, MANUFACTURING, and AGRICULTURAL PURPOSES.

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FOREIGN MINES SUPPLIED ON LIBERAL TERMS.

VARIOUS DESCRIPTIONS of SECOND-HAND MACHINERY CONSTANTLY ON HAND.

N.B.—AGENTS for TANGEY'S PATENT HYDRAULIC LIFTING JACK, and WESTON'S PATENT DIFFERENTIAL PULLEY BLOCKS. 149

IMPORTANT TO MINING COMPANIES.

SMYTH AND WASLEY'S MACHINERY FOR SPALLING AND SEPARATING THE ORE FROM THE STONE, &c.

A NEW and USEFUL MACHINE, termed a PREPARATOR, has recently been patented by Messrs. SMYTH and WASLEY, having for its objects the SPALLING and SEPARATING the ORE from the STONE, and FORMING it into PROPER SIZES for PICKING, JIGGING, CRUSHING, &c., according to the nature and quality of the stuff.

The construction is simple, the bed on which the stuff is broken being made of cast-iron plates, about 14 in. deep, 2 in. wide on the top, and narrowing downwards, with wrought-iron steeled edge bars on the top, the plates and bars being from 1¼ in. to 2 in. apart, and can be regulated to any size, as may be required, through which plates the stuff passes as it is broken with the hammers unto perforated plates, which form it into different sizes, from 1½ in. cube downwards, which plates can also be regulated as may be required. The machine can be erected in connection with other machinery for about £15 per hammer, as driving power. Two, three, four, or any number of hammers may be had as required. Four of from 4 to 5 cwts. each will break about 1000 tons per month.

This invention well deserves public notice, as it will decidedly effect an economy of 70 per cent. over manual labour, together with a great advantage in the dispatch of work, performing it far better than any other mode yet introduced, and several practical gentlemen, who have seen it at work at the Coed Mawr Pool Mines, fully corroborate the above statement.

The charge for patent right will be on the most advantageous terms.

The largest mine in the kingdom may exercise its full use at 5*l.* per month, and the charge to be reduced proportionately according to the magnitude of the works, or the patent may be sold off to each mine district or county, as might be agreed on.

For future particulars, apply to Messrs. SMYTH and WASLEY, Coed Mawr Pool Mines, Llanrwst, North Wales; or to G. I. SOPER, Esq., 25A, Bucklersbury, E.C., London. 150

NEW COMBINED TURBINE, WINDING, AND PUMPING MACHINERY, MANUFACTURED by GEORGE LOW, MILLGATE IRONWORKS, NEWARK-UPON-TRENT,

Who respectfully begs to bring the above to the notice of the mining public, as an exceedingly cheap and easy method of applying water-power for the above purposes.

The TURBINE, WINDING, and PUMPING MACHINERY are all fixed complete to one strong cast-iron bed plate, which can be placed in any situation without pit or excavation, and any height not exceeding 33 ft. from bottom of fall, the supply and suction pipe being all that is required to be connected to it, and can be brought in any direction. This combined machine can be easily removed when necessary.

G. Low begs also to state that the TURBINE is the most efficient and the cheapest method of applying water-power for mining purposes.

MANUFACTURER of WINDING, PUMPING, CRUSHING, STAMPING MACHINERY, WINDING ENGINES, WATER WHEELS.

IMPROVED TURBINE WATER WHEELS CONSTRUCTED either to WORK VERTICALLY or HORIZONTALLY, and upon the MOST SCIENTIFIC and EFFECTIVE PRINCIPLE.

G. Low begs to recommend a special class of turbine adapted for extreme high falls (200 to 500 ft.), and consuming small quantity of water. This turbine will work with equal advantage without running at an excessive velocity. Also,

MANUFACTURER of IMPROVED BORING MACHINES for DRIVING ADITS. 151

PATENT SAFETY FUSE.—The GREAT EXHIBITION PRIZE MEDAL was AWARDED to the MANUFACTURERS of the ORIGINAL SAFETY FUSE, BICKFORD, SMITH DAVEY, and PRYOR who beg to inform Merchants, Mine Agents, Railway Contractors, and all persons engaged in Blasting Operations that, for the purpose of protecting the public in the use of a genuine article, the PATENT SAFETY FUSE *has now a thread wrought into its centre*, which, being patent right, infallibly *distinguishes it from all imitations*, and ensures the continuity of the gunpowder.

This Fuse is protected by a Second Patent, is manufactured by greatly improved machinery, and may be had of any length and size, and adapted to every climate.

Address,—BICKFORD, SMITH, DAVEY, and PRYOR, Tuckingmill, Cornwall. 152

CHARLES DAVEY AND CO., SAFETY FUSE MANUFACTURERS, ST. HELEN'S JUNCTION, LANCASHIRE. 153

HALL AND WELLS, PATENTEES AND MANUFACTURERS OF SUBMARINE TELEGRAPH CORES, CABLES, &c.—TELEGRAPH CONDUCTORS INSULATED with INDIA RUBBER at £5 per mile and upwards, PARTICULARLY ADAPTED for MINING PURPOSES. Further particulars as to price of cores, cables, &c., can be had on application at 60, Aldermanbury, City, E.C.; and Steam Mills, Mansfield-street, Borough-road, Southwark, S.E.

Copper wire covered with silk, cotton, or any other material, to order. 154

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SKETCH OF TABLES FOR THE ANALYTIC UNIVERSAL TELEGRAPHY.

Composed on the Supposition of Morse's Elements and Signals being Used.

By COUNT D'ESCAYRAC DE LAUTURE, K.C.L.H.

Morse's telegraph is possessed of two elementary signals; those two elements being joined together in different ways—two, three, or four of them at a time—afford different signals for all the alphabetical letters.

The successive transmission of all the letters of a word is long.

Signals for the words themselves could be done; the only difficulty consisted in the immense number of signals required to represent all the words, and all the various forms which more especially the verbs can assume.

These difficulties are removed by the analytic universal method, in which tenses, moods, &c., are rendered by peculiar short signals, a very small number of such signals giving an algebraical grammar of all languages.

In the upper half of a table of less than a square foot, all the most useful words are to be found arranged according to their meaning, and thence in the same order in whatever language may be the tables.

The lower part of the same table is filled by one out of various vocabularies, military, commercial, &c., according to the nature of the message to be sent.

Thus, with one table of less than a square foot, a telegram is composed three times shorter in elementary signals than by the alphabetical system.

The same will immediately be understood by any man provided with similar tables in his own language. A message sent from Naples by an Italian will be read in German in Vienna, in French in Paris, in English in London. The same can be written as well as sent by telegraph; absolute secrecy being obtained by a change of key.

The analytic universal method gives, moreover, the means of composing messages unliable not only to decipherment but also to suspicion.

The analytic universal method can be used in connection with apparatus and signals of any kind; no alterations of instruments, no additional wires, &c., being required.

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THE MINING REVIEW, AND JOURNAL OF COMMERCE, TRADE AND MANUFACTURE, SCIENCE AND THE ARTS.

Wednesday, March 26, 1863. Subscription, £1 1*s.* annually. Price 6*d.* stamped.

RAILWAYS AND MINES. Capitalists who seek safe and profitable investments, free from risk, should act only upon the soundest information. The market prices for the day are for the most part governed by the immediate supply and demand, and the operations of speculators, without reference to the *bona fide* merits of the property. Railways depend upon the traffic, expenditure, and capital accounts, the probabilities of alliance or competition with neighbouring companies, the creation of new shares, the state of the money market as affecting the renewal of debentures, and other considerations founded on data to which those only can have access who give special attention to the subject. Mines afford a wider range for profit than any other public securities. The best are free from debt, have large reserves, and pay dividends bi-monthly varying from £15 to £25 per cent. per annum. Instances frequently occur of young mines rising in value 400 or 500 per cent. But this class of security, more than any other, should be purchased only upon the most reliable information. The undersigned devote special attention to railways and mines, afford every information to capitalists, and effect purchases and sales upon the best possible terms. Thirty years' experience in mining pursuits justifies us in offering our advice to the uninitiated in selecting mines for investment; we will, therefore, forward, upon receipt of Post-office order for 5*s.*, the names of six dividend and six progressive companies that will, in our opinion, well repay capitalists for money employed.

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# THE MINING SHARE LIST

## DIVIDEND MINES.

| Shares. | Mines. | Paid. | Last Pr. | Business. | Dividends Per Share. | Last Paid. |
|---|---|---|---|---|---|---|
| 1600 | Alderley Edge (Cheshire) [L.]* | 10 0 0 | — | | 7 18 6 | May, 1863 |
| 4000 | Bedford United (copper), Tavistock† | 2 6 8 | — | | 13 0 0 | Dec. 1862 |
| 240 | Boscean (tin), St. Just† | 20 10 0 | — | | 36 10 0 | Mar. 1862 |
| 200 | Botallack (tin, copper), St. Just | 91 5 0 | — | | 455 15 0 | Nov. 1862 |
| 5000 | Bronfloyd (lead), Cardigan [L. £3] | 2 7 6 | — | | 0 9 0 | April, 1863 |
| 916 | Cargoll (silver-lead), Newlyn | 15 5 7 | — | | 2 5 0 | Feb. 1863 |
| 1000 | Carn Brea (copper, tin), Illogan† | 15 0 0 | — | | 273 10 0 | Feb. 1862 |
| 3000 | Chiverton (lead), Perranzabuloe | — | 7½ | | — | — |
| 256 | Copper Hill (copper) Redruth | 48 0 0 | 86 | 84 86 | 9 10 0 | Sept. 1862 |
| 12000 | Copper Miners of England | 25 0 0 | — | | 7½ per cent. | Half-yrly. |
| 350000 | Ditto ditto (stock) | 100 0 0 | — | | 1 per cent. | Half-yrly. |
| 1065 | Craddock Moor (copper), St. Cleer* | 8 0 0 | — | | 7 12 0 | July, 1862 |
| 512 | Creegbrawse and Penkevil, St. Colomb | — | — | | 0 10 0 | Jan. 1862 |
| 867 | Cwm Erfin (lead) Cardiganshire [L.] | 7 10 0 | — | | 8 8 0 | April, 1863 |
| 128 | Cwmystwith (lead), Cardiganshire* | 60 0 0 | — | | 251 10 0 | Mar. 1863 |
| 280 | Derwent Mines (sil.-lead), Durham | 300 0 0 | — | | 147 0 0 | June, 1862 |
| 1024 | Devon Gt. Con. (cop.), Tavist.* [S.E.] | 1 0 0 | — | 510 520 | 845 0 0 | Mar. 1863 |
| 358 | Dolcoath (copper, tin), Camborne* | 128 17 6 | — | | 709 10 0 | April, 1863 |
| 12800 | Drake Walls (tin, copper), Calstock | 2 1 0 | 2¼ | 2 2¼ | 0 16 6 | Feb. 1863 |
| 3000 | Dyfngwm (lead), Wales | 12 6 6 | — | 10 12 | 0 17 6 | Jan. 1863 |
| 512 | East Basset (cop.), Redruth [S.E.]* | 29 10 0 | 107½ | 95 100 | 107 0 0 | Mar. 1863 |
| 3144 | East Caradon (copper), St. Cleer [S.E.] | 2 14 6 | 37½ | 35½ 36½ | 6 15 0 | April, 1863 |
| 300 | East Darren (lead), Cardiganshire* | 32 0 0 | — | | 85 10 0 | Mar. 1863 |
| 128 | East Pool (tin, copper), Pool, Illogan | 24 5 0 | — | | 350 0 0 | April, 1863 |
| 2800 | Foxdale (lead) Isle of Man [L.] | 25 0 0 | — | | — | July, 1862 |
| 5000 | Frank Mills (lead), Devon | 3 18 6 | — | | 0 16 0 | Mar. 1862 |
| 1793 | Great Wheal Fortune (tin), Breage | 18 6 0 | — | 35 36 | 4 10 0 | May, 1863 |
| 5908 | Great Wh. Vor (tin, cp.), Helston [S.E.] | 40 0 0 | — | | 2 7 6 | Mar. 1863 |
| 10240 | Gunnis Lake (Clitters' Adit) | 0 2 0 | 4½ | | 0 3 0 | Mar. 1862 |
| 1024 | Herodsfoot (id.), near Liskeard [S.E.] | 8 10 0 | 48½ | | 23 5 0 | Feb. 1863 |
| 1000 | Hibernian Mine Company | 92 6 2 | — | | 9 15 0 | Feb. 1863 |
| 400 | Lisburne (lead), Cardiganshire, Wales* | 18 15 0 | — | | 403 10 0 | Mar. 1863 |
| 9000 | Marke Valley (copper), Caradon | 4 10 6 | 7⅝ | 7¼ 7⅝ | 2 8 6 | April, 1863 |
| 1800 | Minera Mining Co. [L.], (id.), Wrexham | 25 0 0 | — | | 114 18 0 | May, 1863 |
| 20000 | Mining Co. of Ireland (cop., lead, coal) | 7 0 0 | 20 | 19½ 20 | 15 17 7 | Jan. 1863 |
| 640 | Mount Pleasant (lead), Mold | 4 0 0 | — | | 18 18 1 | Aug. 1862 |
| 40000 | Mwyndy (iron ore) [L. £4] [S.E.] | 2 10 0 | — | | 0 2 0 | Mar. 1863 |
| 250 | Nanty Mines (lead), Montgomery | 20 0 0 | — | | 1 0 0 | Mar. 1863 |
| 5936 | North Treskerby (copper), St. Agnes | 1 9 0 | 4¼ | 3⅞ 4 | 0 6 0 | April, 1863 |
| 5000 | Orsedd (lead), Flintshire | 0 0 8 | — | | 0 10 4 | Mar. 1862 |
| 6400 | Par Consols (cop.), St. Blazey [S.E.] | 1 2 6 | — | | 36 19 0 | Mar. 1863 |
| 202 | Parys Mines (copper), Anglesey [L.] | 50 0 0 | — | | 57 10 0 | Jan. 1863 |
| 1772 | Polberro (tin), St. Agnes | — | — | | 7 9 6 | April, 1863 |
| 1123 | Providence (tin), Uny Lelant† [S.E.] | 10 6 7 | 43 | 41 43 | 67 5 0 | Feb. 1863 |
| 6000 | Rosewall Hill and Ransom United | 2 16 0 | — | | 0 8 6 | Sept. 1862 |
| 16 | Rhosesmor (lead) | 50 0 0 | — | | 1250 0 0 | Quarterly. |
| 512 | South Caradon (cop.), St. Cleer* [S.E.] | 1 5 0 | — | 400 410 | 400 0 0 | Mar. 1863 |
| 512 | South Tolgus (cop.), Redruth, Cornwall* | 8 0 0 | 53 | 50 52½ | 73 10 0 | May, 1862 |
| 5000 | South Exmouth (lead), Christow | 1 0 0 | — | | 0 5 0 | Dec. 1862 |
| 496 | S. Wh. Frances (cop.), Illogan* [S.E.] | 18 18 9 | 87½ | 82½ 87½ | 367 5 0 | May, 1863 |
| 1024 | South Woodley | 0 5 6 | — | | 0 6 0 | June, 1862 |
| 280 | Spearne Moor (tin, copper), St. Just | 31 17 9 | — | | 9 15 0 | June, 1863 |
| 940 | St. Ives Consols (tin), St. Ives† | 8 0 0 | — | | 486 0 0 | Nov. 1862 |
| 6000 | Tincroft (cop., tin), Pool, Illogan [S.E.] | 9 0 0 | 20 | 19 20 | 12 8 6 | April, 1863 |
| 1000 | Trumpet Consols (tin), near Helston | 11 10 0 | — | 10 11 | 11 0 0 | Mar. 1862 |
| 4200 | Vigra and Clogau (copper) [L. £5] | 2 15 0 | 27 | 25 27 | 4 12 6 | Oct. 1862 |
| 6000 | West Basset (copper), Illogan [S.E.] | 1 10 0 | 13 | 12 13 | 23 11 0 | Jan. 1863 |
| 1024 | West Caradon (cop.), Liskeard [S.E.]* | 5 0 0 | 30 | 28 30 | 101 1 3 | Oct. 1862 |
| 3000 | West Chiverton, (lead), Perranzabuloe | — | 21 | | — | — |
| 256 | West Damsel (copper), Gwennap | 38 10 0 | — | | 46 0 0 | Jan. 1863 |
| 6400 | West Fowey Consols (tin and copper) | 7 10 0 | — | | 0 19 0 | May, 1862 |
| 1024 | West Pensnithal | 4 0 0 | — | | 2 19 6 | May, 1862 |
| 400 | W. Wh. Seton (cop.), Camborne [S.E.]* | 47 10 0 | — | 250 260 | 378 0 0 | April, 1863 |
| 512 | Wheal Basset (copper), Illogan* [S.E.] | 5 2 6 | — | 62½ 67½ | 592 10 0 | Feb. 1863 |
| 1000 | Wheal Basset and Grylls (tin) | 7 0 0 | 27½ | 26 27 | 2 0 0 | April, 1863 |
| 2900 | Wh. Clifford Amalgamated (cp.), Gwen. | 30 0 0 | 24 | 23 24 | 28 6 0 | Dec. 1862 |
| 1024 | Wheal Grylls (tin), Perranuthnoe | 2 4 0 | 29½ | 29 30 | 4 2 0 | Mar. 1863 |
| 4800 | Wh. Ludcott and Wrey (lead), St. Ive. | 2 10 8 | 5½ | 5¼ 5¾ | 3 4 6 | April, 1863 |
| 896 | Wh. Margaret (tin), Uny Lel. [S.E.]† | 9 17 6 | 33 | 31 32 | 75 5 0 | Nov. 1862 |
| 100 | Wheal Mary (tin), Lelant | 36 2 6 | — | | 284 5 0 | Mar. 1862 |
| 1024 | Wh. Mary Ann (id.), Menheniot [S.E.]† | 8 0 0 | 16 | 15½ 16½ | 67 7 6 | Mar. 1863 |
| 80 | Wheal Owles (tin), St. Just, Cornwall | 70 0 0 | — | | 318 3 0 | Feb. 1863 |
| 896 | Wheal Seton (tin, copper), Camborne | 58 10 0 | 270 | 255 260 | 150 15 0 | April, 1863 |
| 1040 | Wh. Trelawny (sil.-id.), Liskeard [S.E.] | 5 17 0 | 17½ | 16½ 17½ | 46 12 6 | Mar. 1863 |

[* Dividends paid every two months. † Dividends paid every three months.]

## MINES WITH DIVIDENDS IN ABEYANCE.

| | | | | | | |
|---|---|---|---|---|---|---|
| 200 | Cefn Cwm Brwyno (lead), Cardiganah. | 33 0 0 | — | | 9 0 0 | April, 1861 |
| 256 | Condurrow (cop., tin), Camborne | 35 0 0 | 125 | | 85 0 0 | June, 1857 |
| 2450 | Cook's Kitchen (copper), Illogan | 17 0 9 | — | 26 27 | 1 7 0 | May, 1862 |
| 4076 | Devon and Cornwall (copper) | 5 16 3 | — | | 0 10 0 | Feb. 1859 |
| 672 | Ding Dong (tin), Gulval | 40 18 6 | — | | 16 7 6 | Mar. 1857 |
| 940 | Fowey Consols (copper), Tywardreath | 4 0 0 | — | | 41 9 3 | June, 1860 |
| 6000 | Great South Tolgus [S.E.], Redruth | 0 14 6 | 5¼ | 4⅞ 5⅛ | 7 18 6 | Dec. 1861 |
| 5000 | Kelly Bray (lead, copper), Callington | 4 15 6 | 1 | 20s. 21s. | 0 6 0 | Feb. 1860 |
| 160 | Levant (copper, tin), St. Just | 2 10 0 | — | | 1091 0 0 | May, 1860 |
| 6000 | New Birch Tor and Vitifer Cons. (tin) | 1 6 6 | — | | 0 3 6 | Sept. 1861 |
| 470 | Newtownards Mining Co., Co. Down | 50 0 0 | — | | 56 0 0 | Sept. 1858 |
| 400 | Phœnix (copper and tin) | — | — | | — | — |
| 4026 | Rosewarne Consols (copper) | 3 12 6 | — | | 0 2 0 | Oct. 1862 |
| 9600 | Tamar Con. (sil.-id.), Beeralston [S.E.] | 4 10 0 | — | | 5 6 0 | Jan. 1861 |
| 572 | Trelyon Consols (tin), St. Ives | 12 10 0 | 15 | | 7 0 0 | Sept. 1860 |
| 1024 | Wendron Consols (tin), Wendron | 12 13 10 | 14 | | 8 15 0 | Jan. 1861 |
| 60 | West Burton Gill (lead), Yorkshire | 50 0 0 | — | | 14 10 0 | June, 1861 |
| 256 | Wheal Buller (cop.), Redruth [S.E.] | 5 0 0 | 55 | 50 55 | 929 0 0 | Mar. 1861 |
| 128 | Wheal Friendship (copper), Devon | 50 0 0 | — | | 2400 10 0 | Feb. 1861 |
| 1024 | Wheal Hearle (tin), St. Just | 9 18 8 | — | | 0 5 0 | May, 1862 |
| 512 | Wheal Jane (silver-lead), Kea | 3 10 0 | — | | 13 10 0 | Mar. 1862 |
| 1024 | Wheal Kitty (tin), Uny Lelant [S.E.] | 2 0 6 | 8¾ | 8¼ 9 | 8 10 0 | April, 1862 |
| 4295 | Wheal Kitty (tin), St. Agnes | 5 4 6 | 7⅜ | | 0 18 6 | July, 1860 |
| 5000 | Wicklow (copper) [L.], Wicklow | 5 0 0 | — | | 43 17 6 | Oct. 1861 |

## FOREIGN MINES.

| | | | | | | |
|---|---|---|---|---|---|---|
| 2484 | Burra Burra (cop.), South Australia | 5 0 0 | — | | 305 0 0 | Feb. 1863 |
| 6000 | Central American (silver) [L.] | 5 0 0 | — | | 2 2 9 | Oct. 1862 |
| 12000 | Cobre Copper Co. (cop.), Cuba [S.E.] | 40 0 0 | 20 | 18 20 | 98 12 0 | Jan. 1862 |
| 10000 | Copiapo Mining Company, Chili [S.E.] | 16 0 0 | 8½ | | 6 18 0 | Nov. 1862 |
| 15000 | East Indian Coal, Calcutta [L.] | 10 0 0 | — | | 7½ per cent. | Yearly. |
| 25000 | English and Australian [S.E.] | 5 0 0 | — | | 1 7 6 | Feb. 1862 |
| 25000 | Fortuna (lead), Spain [L.] [S.E.] | 3 0 0 | 4¾ | 4¼ 4¾ | 0 8 4 | Mar. 1863 |
| 25000 | Gen. Mining Assoc., Nova Scotia [S.E.] | 20 0 0 | 22 | 21 22 | 19 5 0 | June, 1862 |
| 68000 | Kapunda Mining Co., Australia [S.E.] | 1 0 0 | 1¼ | 1⅛ 1¼ | 0 10 0 | June, 1862 |
| 15000 | Linares (ld.), Pozo Ancho, Spain [S.E.] | 3 0 0 | 7⅛ | | 9 1 2 | Mar. 1863 |
| 10000 | Lusitanian (of Portugal) [S.E.] | 2 0 0 | — | 1½ 2 | 0 19 9 | Feb. 1863 |
| 103815 | Mariquita and New Granada [S.E.] | 1 0 0 | ⅞ | | 0 9 6 | July, 1859 |
| 100000 | Port Phillip (gold), Clunes [S.E.] | 1 0 0 | 1⅛ | 1¼ | 0 8 6 | Jan. 1863 |
| 11000 | St. John del Rey [L.], Brazil [S.E.] | 15 0 0 | 56 | 55 57 | 54 15 0 | Dec. 1862 |
| 42174 | Unit. Mexican (sil.), Mexico [S.E.] | Av. 28 | 5 0 | 7½ | 6¾ 7¼ | 2 9 0 May, 1863 |
| 20000 | West Canada Mining Company [L.] | 1 0 0 | — | | 0 2 0 | Nov. 1862 |

## FOREIGN MINES WITH DIVIDENDS IN ABEYANCE.

| | | | | | | |
|---|---|---|---|---|---|---|
| 35000 | Alamillos [L. £3] | 0 10 0 | — | ⅛ ⅝ | — | — |
| 10000 | Alten and Quennangen Uni. (cop.) [L. £5] | 4 10 0 | — | | 4 5 0 | Nov. 1853 |
| 10000 | Gt. Barrier Land, Min., &c., N. Ze. [L. £5] | 4 10 0 | — | | 15 per cent. | May, 1859 |
| 10000 | Pontgibaud (sil.-lead), France [S.E.] | 20 0 0 | 3 | | 1 0 0 | June, 1855 |
| 50000 | Vallanzasca (gold) [L. £1] | 0 5 0 | — | ⅛ ⅜ | — | — |

## NON-DIVIDEND FOREIGN MINES.

| Shares. | Mines. | Paid. | Last Pr. | Business done. | Last Call. |
|---|---|---|---|---|---|
| 20000 | Australian (copper), South Australia [S.E.] | 7 7 6 | — | 1¼ 1⅛ | Sept. 1858 |
| 20000 | Bearis Tin Streaming Company [L. £1] | 0 12 6 | — | — | Feb. 1863 |
| 75000 | Bon Accord, South Australia (copper) [L. £1] [S.E.] | 1 0 0 | — | ⅜ ⅛ ⅜ | — |
| 15000 | Cape Copper Mining Company [L. £10] | 2 10 0 | — | — | Jan. 1863 |
| 25000 | Capula (silver), Mexico [L. £2] [S.E.] | 0 10 0 | — | ⅝ ⅜ ⅝ | Jan. 1862 |
| 17000 | Central Italian (copper) [7000 £3 paid] | 0 6 0 | — | — | Jan. 1859 |
| 60000 | Clarendon Consols (copper), Jamaica [S.E.] | 1 2 6 | — | — | July, 1862 |
| 10000 | Coptapo Smelting [L.], Chili | 10 0 0 | — | — | Fully paid. |
| 100000 | Don Pedro North Del Rey (gold), Brazil [L. £1] [S.E.] | 0 10 0 | — | 1⅛ 1 1⅛ | Aug. 1862 |
| 75000 | Dun Mountain (copper), New Zealand [L.] [S.E.] | 1 0 0 | — | ⅛ | Fully paid. |
| 25000 | East del Rey, Brazil [L. £3] | 1 0 0 | — | 1¼ 1 1¼ | Sept. 1861 |
| 30000 | East Kongsberg Native Silver Mining Co. of Norway [L. £5] | 1 7 6 | — | — | Mar. 1862 |
| 20000 | Elbe Colliery Company [L.] | 1 0 0 | — | — | Fully paid. |
| 30000 | Ellerslie and Bardowie, Jamaica | 0 18 0 | — | — | July, 1859 |
| 8000 | English and Canadian Mining Company [L.] | 5 0 0 | — | — | Fully paid. |
| 40000 | Fortune (copper), West Australia [L.] | 2 0 0 | — | — | Fully paid. |
| 80000 | Great Northern (copper), South Australia [L. £2] [S.E.] | 1 10 0 | — | — | June, 1862 |
| 24000 | Hindostan (copper), Bengal [L. £5] | 3 0 0 | — | — | Feb. 1863 |
| 4000 | Hope Silver-Lead and Copper Mining Co. [L.], Jamaica | 25 0 0 | — | — | Fully paid. |
| 50000 | Imperial Thessalian (lead, &c.), Thessaly [L. £2] | 0 10 0 | — | — | June, 1860 |
| 10000 | Karbitz Colliery Company [L.] | 1 0 0 | — | — | Fully paid. |
| 30000 | Laguanazo (sulphur, copper), Portugal [L.] | 1 0 0 | — | — | Fully paid. |
| 180000 | Montes Aureos (gold), Brazil [L.] [S.E.] | 2 0 0 | — | 2½ 2⅜ | Fully paid. |
| 2000 | New Barra Barra (Australia) | 5 0 0 | — | — | Aug. 1862 |
| 60000 | New Granada (gold), South America [S.E.] | 1 0 0 | — | — | Fully paid. |
| 10000 | New Grand Duchy of Baden (silver-lead), near Freiburg | 1 0 0 | — | — | Nov. 1858 |
| 60000 | North Rhine Copper of South Australia [L. £1] [S.E.] | 0 17 6 | — | — | — |
| 50000 | Nova Scotia (land and gold) [L. £3] | 1 0 0 | — | ⅜ | Nov. 1862 |
| 15000 | Pachuca Silver Mining Company, Mexico [L. £1] | 0 15 0 | — | — | April, 1862 |
| 17000 | Quebrada (copper), Venezuela [L. £10] | 2 10 0 | — | — | Dec. 1862 |
| 60000 | Santa Barbara (gold), Brazil [L. £1] | 0 10 0 | — | — | Mar. 1862 |
| 120000 | Scottish Australian Mining Company [L. £1] | 0 12 6 | — | — | — |
| 15000 | South Europe Mining Company, Spain [L. £5] | 3 0 0 | — | — | May, 1860 |
| 50000 | St. John's United (copper, lead), Newfoundland [L.] | 1 0 0 | — | — | Fully paid. |
| 12800 | Teplitz Colliery Co. [L. £5] | 2 0 0 | — | — | — |
| 19040 | Vancouver (coal) [L. £10] | 5 0 0 | — | — | — |
| 45000 | Victor Emanuel, Italy [L.] | 1 0 0 | — | — | Fully paid. |
| 1000 | Western Africa Malachite (copper) [L.] | 110 0 0 | — | — | Oct. 1859 |
| 12000 | Wheal Ellen, South Australia [L.] | 5 0 0 | — | — | Fully paid. |
| 34425 | Wheal Jamaica (copper) | 1 0 0 | — | — | Fully paid. |
| 60000 | Worthing (copper), South Australia [L.] [S.E.] | 1 0 0 | — | — | Fully paid. |
| 45000 | Todmountana (copper), South Australia [L.] [S.E.] | 3 0 0 | — | 3⅛ ⅜ 3⅛ | Fully paid. |

## PROGRESSIVE MINES.

| Shares. | Mines. | Paid. | Last Pr. | Business done. | Last Call. |
|---|---|---|---|---|---|
| 100 | Aberdovey (sil.-lead), Merio. | 1 10 0 | — | | |
| 600 | Aberffrwd (lead), Cardigan | 0 10 0 | — | | |
| 35000 | Atlas Min. and Smelt. [L. £1] | 0 15 0 | — | | Mar. 1863 |
| 4745 | Alfred Con. (cop.), Phillack | 4 18 5 | — | | April, 1863 |
| 6000 | Bagtor [L. £2] | 1 14 0 | — | | April, 1863 |
| 400 | Baldwin, I. of Man [L. £5] | 2 15 0 | — | | Mar. 1863 |
| 1624 | Balleswidden (tin), St. Just | 14 8 7 | — | | Mar. 1862 |
| 10000 | Rampfylde (copper), Devon | 1 0 0 | — | | Aug. 1860 |
| 4000 | Bedford Consols (copper) | 2 6 0 | — | | Feb. 1863 |
| 2000 | Berehaven (copper), Ireland | 1 7 6 | — | | |
| 400 | Billins [L. £30] [200 £15 pd.] | 30 0 0 | — | | April, 1863 |
| 1248 | Boscaswell (tin, cop.), St. Just | 6 15 0 | — | | Dec. 1860 |
| 2280 | Boscundle (tin, cp.), St. Austell | 7 10 0 | — | | Sept. 1862 |
| 160 | Bosorne & Bollowall, St. Just | 6 5 0 | — | | Dec. 1860 |
| 5000 | Bottle Hill (tin) Piympton | 1 7 0 | 12s. | 12s. 14s. | April, 1863 |
| 12000 | Brea Con. (tin), St. Ives [L. 30s.] | 1 7 6 | — | | Nov. 1863 |
| 6000 | British (tin & cop.), [L. £1 10s.] | 0 12 0 | ¾ | | No call. |
| 4000 | Brookwood (cop.) Ashburton | 1 12 6 | — | | |
| 112 | Bron-Haulog (id.), Denbighsh. | 20 0 0 | — | | No call. |
| 5120 | Brynambor (id.), Cardi. [L. £5] | 2 3 0 | — | | Nov. 1862 |
| 200 | Brynford Hall (lead), Flint | 25 0 0 | — | | April, 1862 |
| 500 | Bryn Gwiog (lead), Flint | 6 0 0 | 30 | 29 30 | April, 1862 |
| 1861 | Bryntail, Llanidloes, Montgo. | 7 14 6 | — | | May, 1863 |
| 8280 | Buller and Basset Unit. (cop.) | 4 1 6 | — | | Feb. 1863 |
| 1200 | Burra Burra (cop.), Kenwyn | 2 10 0 | — | | April, 1862 |
| 2200 | Burren (lead, calamine) [L. £5] | 5 0 0 | — | 5⅛ | June, 1862 |
| 915 | Calvadnack, Wendron (tin) | 23 4 6 | — | 7 8 | Feb. 1863 |
| 1000 | Camborne Consols (copper) | 17 15 0 | — | | Feb. 1863 |
| 4600 | Camborne Vean & Wh. Francis | 8 14 4 | — | | Oct. 1862 |
| 75000 | CambrianConsolid. (gd.) [L. £2] | 1 0 0 | — | | Aug. 1862 |
| 914 | Caradon Cons. (cop.), St. Cleer | 26 4 6 | — | 15 17½ | Mar. 1863 |
| 4046 | Caradon Hill (copper) | 2 1 6 | — | | July, 1862 |
| 6000 | Caradon United (copper) | 0 10 0 | — | | Sept. 1862 |
| 10000 | Caradon Vale (copper) | 5 0 0 | — | | |
| 10000 | Cardigan Consols (lead & cop.) | — | — | | July, 1862 |
| 2580 | Carmarthen United (lead) | 5 0 0 | — | | Fully paid. |
| 6000 | Carn Camborne (copper) | 0 13 6 | — | | April, 1863 |
| 4370 | Carnewas (ld., cop.), Mawgan | 1 8 0 | — | | Nov. 1862 |
| 3000 | Carn Vivian (tin, cop., lead) | 2 1 6 | — | | Nov. 1861 |
| 9048 | Carnyorth (tin), St. Just | 4 0 0 | — | | Sept. 1862 |
| 20000 | Caryafort [3200 £2½ pd., 16800 £1 pd.] | — | — | | — |
| 10000 | Castleward, Ireland [L.] | 1 0 0 | — | | Fully paid. |
| 2500 | Cefn Cilcen (lead), Flintshire. | 2 1 0 | — | | Jan. 1863 |
| 2500 | Central Minera (lead) [L. £5] | 1 19 0 | — | | Oct. 1862 |
| 6000 | Charlotte Untd., Perranuthnoe | 3 14 1 | — | | May, 1863 |
| 4000 | Clara Unit., Ponterwyd [L. £3] | 1 14 6 | — | | April, 1863 |
| 787 | Clijah & Wentworth (tin, cp.) | 31 0 0 | — | | Mar. 1863 |
| 3170 | Coed Mawr Pool (lead) [L.] | 4 16 6 | — | | Jan. 1863 |
| 16000 | Coolartra and Bond, Ireland | 1 0 0 | — | | Sept. 1862 |
| 50000 | Connorree (cop., sulph.) [L.] | 1 0 0 | 18s6d. | 18s. 6d. | Fully paid. |
| 7000 | Cornubia (tin) | 2 0 0 | — | | Oct. 1862 |
| 661 | Crane (copper), Camborne | 16 10 0 | — | 25 | Mar. 1863 |
| 12000 | Crelake (cop.), Tavistock | 0 10 0 | — | | April, 1863 |
| 8000 | Crookhaven (cop.) [L. £2½] | 1 10 0 | — | | Oct. 1861 |
| 6000 | Crowan Cons. (cop.) [L. £2] | 0 15 0 | — | | Sept. 1862 |
| 2000 | Crowiwm (lead), Llanidloes | 1 10 0 | — | | No call. |
| 6000 | Cuddra (cop., tin), St. Austell | 3 13 0 | — | | Feb. 1863 |
| 1800 | Cwmbrane, Carmar. [L. £3] | 2 0 0 | — | | Sept. 1862 |
| 30000 | Dale, N. Staf. [L.] [21000 £1 pd., 9000 7s. 6d. pd.] | — | — | | Feb. 1862 |
| 2000 | Deep Level, Minera [L. £5] | 3 5 0 | — | | Feb. 1862 |
| 12000 | Devon Union (copper) [L.] | 1 0 0 | — | | Fully paid. |
| 4566 | Devon Wheal Buller (copper) | 4 10 0 | — | | Aug. 1862 |
| 20000 | Dolfrw-y-nog (gold) [L. £1] | 0 10 0 | ⅞ | ⅝ ⅞ | Sept. 1862 |
| 1000 | Durlo (tin), Lelant | 8 2 0 | — | | Oct. 1862 |
| 5000 | Duita (tin) [L.] | 1 0 0 | — | | Fully paid. |
| 1000 | Eaglebrook (lead) [L. £20] | 16 0 0 | — | | Feb. 1863 |
| 600 | East Abraham (copper) | 2 10 0 | — | | Mar. 1863 |
| 4096 | East Alfred Consols (copper) | 6 5 10 | — | | Dec. 1862 |
| 3000 | E. Beam (tin), St. Aus. [L. £2] | 1 7 0 | — | | Mar. 1863 |
| 4096 | East Brookwood (copper) | 1 7 0 | 4½ | | Jan. 1863 |
| 5000 | E. Bronfloyd (sil.-ld.) Card. [L] | 2 0 0 | — | | |
| 6000 | East Carn Brea (cop.) Redruth | 3 15 0 | 8⅝ | 8¼ 8½ | Feb. 1863 |
| 2000 | East Chiverton (lead) | 1 0 0 | — | | |
| 50000 | E. Clogau (gold), Merio. [L. £1] | 0 5 0 | — | | May, 1862 |
| 6400 | East Crinnis and South Par. | 2 14 0 | — | | May, 1862 |
| 6000 | East Damsel (cop.), Gwennap | 1 11 0 | — | | Mar. 1862 |
| 4000 | East Devon Gt. Consols (cop.) | 1 9 0 | 5 | | Jan. 1863 |
| 1200 | East Dyliffe (lead) [L. £5] | 3 0 0 | 4½ | 4 4½ | April, 1863 |
| 2048 | E. Falmouth (s.-id.), Kenwyn | 4 0 6 | — | | Mar. 1863 |
| 6000 | E. Grenville (cop.), Camborne | 1 14 0 | 2½ | 45s. 47s. | May, 1863 |
| 4000 | E. Gunnis Lake & S. Bedf. (cp.) | 7 3 6 | — | | April, 1863 |
| 6145 | East Jane (sil.-id.), Cardinham | 1 13 0 | — | | April, 1863 |
| 1024 | E. Margaret (tin), Uny Lelant | 18 5 0 | — | | Jan. 1863 |
| 6000 | East Martha [L. £2 10s.] | 1 5 0 | — | | May, 1863 |
| 8000 | E. Polberro, St. Agnes [L.] | 0 10 0 | — | | May, 1861 |
| 4096 | E. Providence (tin), Uny Lel. | 2 12 4 | — | | Mar. 1863 |
| 5000 | E. Rosewarne (cp., tin), Gwin. | 2 15 0 | 3⅞ | | Sept. 1862 |
| 5610 | East Seton (cop.), Camborne | 0 8 0 | — | | April, 1863 |
| 256 | East Tolgus (copper), Redruth | 82 0 0 | — | | Feb. 1863 |
| 1024 | E. Treskerby (cop.), Redruth | 6 17 6 | 3½ | 3 3½ | Mar. 1863 |
| 1130 | E. Wheal Agar (cop.), St. Cleer | 11 2 0 | 12 | | Mar. 1863 |
| 2000 | East Wheal Fortune (tin) | 1 0 0 | — | | April, 1863 |
| 2048 | East Wheal Grylls (tin, cop.) | 0 10 0 | — | | |
| 2048 | E. Wh. Lovell (tin), Wendron | 2 13 6 | — | | |
| 4000 | E. Wh. Russell, Tavis. [S.E.] | 8 1 6 | 3½ | 3⅛ 3⅜ | Feb. 1863 |
| 10000 | Ely Merthyr Col. [L. £2 10s.] | 1 5 0 | — | | |
| 5000 | Fursdon (copper) [L. £1 10s. | 1 7 6 | — | | Oct. 1861 |
| 4000 | Furze Hill Wood Cons., Buckl. | 0 18 6 | — | | April, 1863 |
| 114 | Garden (tin), Morvah | 35 0 0 | — | | Feb. 1862 |
| 1024 | Garlidna Untd. (tin), Wendron | 13 6 4 | — | 3⅛ 4 | Mar. 1863 |
| 1000 | Garreg (lead), Flint | 5 9 0 | — | | April, 1863 |
| 4000 | Gawton (copper), Tavistock | 1 17 0 | ⅝ | ⅛ ⅝ | Oct. 1862 |
| 1024 | Gellifforwller (ld.), Holywell | 0 2 6 | — | | June, 1861 |
| 6000 | Gen. Min. Co. for Irel. (cop.) | 4 0 0 | — | | |
| 30000 | Glasgow Caradon Cons. [L.] | 1 0 0 | 4½ | 4½ 4¾ | Fully paid. |
| 4892 | Goginan (sil.-ld.) [1900 £12½, 2992 £1] | — | — | | Jan. 1863 |
| 6144 | Gonamena (copper), St. Cleer | 3 13 0 | — | | Mar. 1863 |
| 6400 | Goonbarrow & Molinnis (tin) | 2 0 0 | — | | |
| 2000 | Goonzion (copper), St. Neot | 0 12 6 | — | | Feb. 1863 |
| 486 | Gramb. & St. Aub. (cp.) [S.E.] | 56 0 0 | 13 | 12 14 | May, 1863 |
| 5000 | Great Brigan (copper) | 5 11 6 | 4½ | | May, 1863 |
| 4096 | Great Caradon (cop.), St. Ive. | 2 2 0 | 2 | 2 | Mar. 1863 |
| 15000 | Great Laxey (lead) [L. £4] | — | 4½ | 4 4¼ | Fully paid. |
| 6000 | Great North Downs (copper) | 2 10 0 | 2¾ | 2½ 2¾ | May, 1863 |
| 30000 | Great North Tolgus [L. £1] | 0 12 0 | — | | Feb. 1863 |
| 6000 | Gt. Retallack (sil.-ld., blende) | 1 19 6 | — | | Mar. 1863 |
| 52000 | Great Treguse Consols (cop.) | 0 5 0 | — | | |
| 3730 | Great Wheal Baddern (tin) | 6 16 0 | — | | May, 1863 |
| 6000 | Gt. Wh. Busy (cop., tin), Ken. | 15 14 6 | 5½ | | April, 1863 |
| 119 | Great Work (tin), Germoe | 100 0 0 | — | | |
| 5000 | Grosvenor (ld.) [2500 £1 pd., 2500 7s. pd.] | — | — | | |
| 4910 | Guriyn (cop., tin), St. Erth | 1 18 11 | — | | Feb. 1862 |
| 6068 | Gwydyr Park Con., Llanrwst | 0 19 0 | — | | Feb. 1863 |
| 6400 | Harwood (ld.), Durham [L. £1] | 0 5 6 | — | | Nov. 1861 |
| 7219 | Hawkmoor (tin, cop.) Calstock | 3 2 0 | — | 1⅜ | Mar. 1863 |
| 6000 | Hingston Down (cop.), [S.E.] | 5 6 0 | — | 2¾ 3 | Feb. 1863 |
| 10000 | Holmbush [5000 £5 2s. pd., 5000 15s. pd.] | — | — | | May, 1863 |
| 6000 | Illogan (tin and copper) | 0 7 6 | 1⅞ | 1½ 1¾ | April, 1863 |
| 40 | Imperial Silver-Lead, Dolgelly | 65 0 0 | — | | Jan. 1862 |
| 6000 | Keswick (lead), Portinscale | 5 6 6 | — | | Mar. 1862 |
| 6000 | Lady Bertha (cop.) [S.E.] | 2 8 6 | 1 | ⅜ 1 | April, 1863 |
| 963 | Lelant Cons. (tin), Uny Lelant | 35 0 0 | — | | Mar. 1863 |
| 1019 | Leeds & St. Aubyn (tin, cop.) | 17 6 4 | — | | Feb. 1862 |
| 240 | Llangan (ld.), Glamor. [L. £25] | 5 0 0 | — | | Aug. 1862 |
| 500 | Long Rake (lead), Flint | 16 10 0 | 20 | | May, 1863 |
| 2000 | Lower Park Denbighshire [L.] | 3 5 0 | — | | April, 1863 |
| 6000 | Maudlin (copper) | 3 17 0 | — | | Mar. 1863 |
| 4480 | Merllyn (lead), Flint | 3 18 0 | — | | April, 1863 |
| 22000 | Merryfield (lead) [L.] | 0 12 0 | — | | May, 1860 |
| 3475 | Michell (lead), Flint | 0 5 6 | — | | April, 1863 |
| 1024 | Mill Pool (copper) | 15 15 0 | — | | Jan. 1863 |
| 5000 | Molland (cop.), S. Moulton | 2 9 6 | — | | Nov. 1862 |
| 1024 | Nangiles (tin, copper), Kea | 13 0 0 | — | 10 11 | Mar. 1863 |
| 50 | Nanteos (sil.-ld.), Llanbardan | — | — | | Jan. 1862 |
| 5000 | Nanteos and Penrhiw [L. £4] | 3 12 0 | — | | |
| 512 | Nant Minera [L. £20] | 4 10 0 | — | | April, 1863 |
| 2400 | Nant-y-Iago (ld.), Merioneth | 3 12 6 | — | | Nov. 1862 |
| 6400 | Nether Heath (lead), Dufton | 0 15 6 | — | | April, 1860 |
| 6400 | N. Crow Hill (ld.), St. Stephen | 2 8 6 | — | 1¾ | Feb. 1863 |
| 6000 | New E. Birch Tor and Vitifer | — | — | | |
| 6514 | New E. Wh. Russell, Tavistock | 0 6 0 | — | | Oct. 1862 |
| 400 | New Hendra (tin, cop.), Breage | 1 5 0 | — | | April, 1863 |
| 6000 | New S. Caradon (cop.), St. Cleer | 0 10 6 | — | | Dec. 1862 |
| 6000 | New Treleigh Cons., Redruth | 1 13 0 | — | | Nov. 1862 |
| 1024 | New Wendron (tin) | 7 0 0 | — | | Jan. 1863 |